University of Alberta

Toward a Nigerian Information Society: Information and Communication Technologies as Tools for Socio-Economic Development – A Case Study

by

Patience Idaraesit Akpan ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment
of the requirements for the degree of Doctor of Philosophy

Department of Political Science

Edmonton, Alberta

Spring 2003

National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisisitons et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence
ISBN: 0-612-82076-9
Our file Notre référence
ISBN: 0-612-82076-9

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou aturement reproduits sans son autorisation.

Canada

University of Alberta
Library Release Form

Name of Author: Patience Idaraesit Akpan

Title of Thesis: Toward a Nigerian Information Society: Information and Communication Technologies as Tools for Socio-Economic Development – A Case Study

Degree: Doctor of Philosophy

Year this Degree Granted: 2003

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves all other publication and other rights in association with the copyright of this thesis, and except as herein before provided, neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatever without the author's prior written permission.

Patience Idaraesit Akpan
1519 W 6th Drive
Mesa, AZ
85202

April 14 2003

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled, **"Toward a Nigerian Information Society: Information and Communication Technologies as Tools for Socio-Economic Development - A Case Study,"** submitted by Patience Idaraesit Akpan in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Dr. Thomas Keating, Supervisor

Dr. Janine Brodie, Committee Chair

Fred Judson
Dr. Fred Judson, Committee Member

Yasmeen Abu-Laban
Dr. Yasmeen Abu-Laban, Committee Member

E A McDougall
Dr. Ann McDougall, Committee Member

J Brohman
Dr. John A.C. Brohman, External Examiner

Dedication

To the memory of my maternal grandfather, Chief Jackson Akpan Ekpo-Ekerete (1916-1985), whose dream for me was that I would "go to all the school there is to go to." This one is for you, Usobom!

Abstract

Information and communication technologies (ICTs) have, in recent years, been linked with socio-economic development. The assumption is that these technologies can be harnessed as tools for economic growth in developing countries, as well as create a level playing field for these countries' integration into the global information society. The ICT-for-development discourse has become so pervasive that many developing countries have formulated and executed ICT-centred policies and projects as central components of their development strategies. While this discourse appears new, its assumptions are structured by classical modernization theories of development, communication and information. As in the 1960s during the heyday of modernization theory, current discourse proceeds mostly from utopian and techno-centric perspectives that uncritically present ICTs as the panacea to underdevelopment.

Given the paucity of critical studies in the field, this dissertation sets out to achieve three inter-related objectives. First, it seeks to contribute to knowledge by investigating the process through which Nigeria is harnessing ICTs in the pursuit of socio-economic goals. Second, it provides a critical-structural perspective to the ICT-for-development discourse. It accomplishes this through an exploration of the conditions (or structures) that can facilitate or hinder the achievement of ICT-centred development goals in countries such as Nigeria. Third, the dissertation brings a political science perspective to a field that is dominated by information science and computer science scholars even as the issues that are addressed are core concerns in political science, particularly in the sub-fields of

comparative politics and development studies. This perspective stresses the role of the state and its institutions and structures in the diffusion of ICTs for development. It allows one to examine state-society relations and the new forms of power relations and class formations that the technologies engender especially in countries with high levels of income disparities.

The research was framed around the primary question: How is Nigeria acquiring and utilizing ICTs as tools for socio-economic development? Various research methods were used during several months of fieldwork in Nigeria in July-September 2000 and July-December 2001. The methods included administration of a questionnaire, personal interviews, content analysis, observations and anecdotes.

The results indicate that ICTs will not by themselves create the kind of development that satisfies the basic needs of the majority of the people unless they are integrated with policies and projects in other sectors of the economy, such as education and health. Incorporated with developments in these sectors, ICTs can potentially raise the level of economic growth in many developing countries.

Preface: A personal odyssey

My introduction to the issues of development, or rather underdevelopment, began in Nigeria during ten years of work as a journalist. I had started out in the exciting and exacting field of sports reporting where the issues were clearly defined: a football (soccer) team won, lost or drew a match. Working for a state-government-owned newspaper, life mostly revolved around the fortunes of the state-government-owned team, Rovers Football Club of Calabar. When I started sports reporting in 1984, Rovers FC was at the top of the premier division and life was generally good, with the club winning many of its home matches (which I covered) and drawing many of its away matches, with very few loses. And then, three years later, I moved to a bigger newspaper (*The Punch)* and a bigger city (Lagos) where life was more fast-paced and the distinctions between losses and wins were not so clearly defined. Assigned to the Woman's Desk the challenges of work were not that demanding. All I had to do was perfect my writing skills and entertain my female readers on "ten ways to get your man" or some such fare. After a year of this, I decided to give the women's pages (which I edited) some more teeth and began a series of in-depth articles on the participation of women in the emerging "Third Republic" politics of the country in the late 1980s. I also focused on issues of women in poverty in a way that was not very fashionable among my largely urban and educated middle-class female readers. Valuable newspaper spaces were given to photos of women literally eking out a living in the coalmines of Jos rather than those of the latest fashions out of Paris and New York. Before the hate mail started arriving, I was reassigned to head the newly created Political Desk of the newspaper. And that was the beginning of the journey that has culminated here.

At this time in Nigeria (1989), the country was trying to return to democracy, after six years of military rule. The Babangida military administration asked Nigerians to form political associations for registration as political parties in what he called the Transition to Civilian Rule. This process would last ten years, through three military administrations. In the few months before President Ibrahim Babangida halted the process (to resume it two years later), I travelled to many parts of the country to cover political meetings and interview members of the emerging political class. In the process, I saw the many faces of poverty in the country. Due to Nigeria's colonial heritage, economic and political power has always been regionally distributed. Thus, the mainly Islamic and Hausa/Fulani North always had the political power with the mostly Christian and multi-ethnic South having most of the economic power. Since political power in Nigeria usually translates as access to economic power, the view from the South was that the North was better off than the rest of the country. This was particularly troubling to many Southerners because Nigeria's major resource, oil, is extracted from their region and they felt that their resources were being put in the service of Northerners. And the view from the North was that the South had everything.

The opportunity to travel around the country showed me that poverty is widespread and affects the majority of Nigerians regardless of region or religion. Those who had access to economic wealth were few but spread around the country. As I followed some of the new politicians on their campaign trail, I realized that while they claimed to have the solutions to problems of poverty and inequitable distribution of resources, they all saw access to political power as synonymous with access to personal economic enrichment. I did not have the answers either, and this led to a lot of frustrations as weekly, I tried in my column, to proffer suggestions for change.

This frustration was to re-occur during my first year in the PhD program at the University of Alberta. In much of the development literature that I had come across, I sensed a repetition of mostly modernization-driven strategies of development that had been tried in many countries but failed to result in economic growth. It seemed to me that there was a disjuncture between theoretical analysis and the realities of people living in the Developing World particularly in sub-Saharan Africa. Outside the framework of the classroom, I decided to find out what new theories were being put forward in the attempt to explain poverty in other parts of the world. There was a sense of urgency for me because while I have taken on Canadian citizenship and could be considered materially comfortable, the pictures of malnourished black children and women continually haunt me. I am constantly confronted by the question: how can Africa escape this crushing poverty? In the search for answers, I came across the debates in the field of information and communication technologies (ICTs) and their linkages with socio-economic development. By this time, ICTs, particularly the Internet, still held some fascination for me. I decided to explore the ICT-for-development discourse in hope that it held the answers.

My fascination with ICTs began in the Fall of 1994 in Massey College at the University of Toronto. I had been in the country for a few weeks and was very homesick. A professor, who would become my guardian angel during the school year, Dr. Ursula Franklin, told me I could stay in touch with home through the Internet. I had vaguely heard about e-mail in Nigeria but had no idea what it was all about. I certainly did not know what the Internet was. Even if I knew what Dr. Franklin was talking about, I did not have a computer which I was told I needed to be able to access the Internet. In fact, the first computer I ever used was in the basement of Massey College, my residence. A first-year undergraduate student, Laurie Graham, who lived in a near-by residence, came over one Sunday evening to give me a crash program on how to do word-processing so I could type my assignments for a fiction-writing course I was taking. Unknown to me, Dr. Franklin had contacted a women's charitable organization and told them about me. The organization then gave me a grant of $3,000 with which I bought my first computer and printer. That began the romance with the computer and the Internet, and in 1996, I took it further by researching the challenges posed by online newspapers to the "ink-and-dead-tree" print variety for my Master's Research Project (MRP) at Carleton University.

And now in 1999, as I came across the connections between ICTs and socio-economic development, I saw a way in which I could use my fascination with ICTs generally and the experiences of researching for the MRP to try to understand the problems of underdevelopment, and hopefully find some solutions. I doubt that the search is over, but in the following pages I present my findings.

Acknowledgements

First, I express my gratitude to Dr. David Whitson, graduate coordinator in the Department of Political Science, University of Alberta, for opening the door when I first went knocking in the department in the summer of 1997. He encouraged me to enrol in the PhD program in Political Science.

I thank my supervisor, Dr. Thomas Keating, who took me under his academic wings and guided me in my journey from journalism to political science. He was always there when I needed him. I am equally grateful to Dr. Fred Judson, who not only supported me intellectually, but also provided friendship and encouragement. On a similar note, I thank Dr. Yasmeen Abu-Laban, whom I fondly refer to as my "unofficial mentor" for her support over the years. I particularly acknowledge her careful reading of, and comments on, the draft chapters of this dissertation. While her suggestions greatly improved the quality of the argument in the dissertation, I am entirely responsible for the shortcomings.

My gratitude also goes to the faculty of the Department of Political Science at the University of Alberta particularly Drs. Ian Urquhart and Linda Trimble, for going out of their way to help me whenever I called on them. As well, the staff, Marilyn Calvert (the graduate secretary), Cindy Anderson and Sharon Morsochan for cheerfully enduring what Calvert constantly referred to as my "bugging" especially during the months of research and writing when I was away from the department. I thank my colleagues (PhD admissions of Fall 1998), especially Sean McMahon, for their support and friendship.

Sean also introduced me to Luiza Klebek, who proved the old saying, "a friend in need is a friend indeed." Dr. Philomena Okeke of the Women's Studies Program has been a great friend and sister. She was also my eyes, hands, feet and ears in Edmonton during the months when I was out in Nigeria and Arizona researching and writing the dissertation. She had only one-word response to my numerous requests and calls on her time and resources: "okay."

The Social Sciences and Humanities Research Council of Canada (SSHRC) financially supported the last two years of the PhD program through its doctoral fellowship. I also benefited from departmental and Faculty of Graduate Studies and Research funding (such as teaching assistantships, teaching as a sessional lecturer, the Andrew Stewart Memorial Graduate Prize and Sir Walter H. Johns Graduate Fellowship), and the financial assistance of the Edmonton chapter of the Canadian Association of University Women (through the Margaret Brine Scholarship).

The International Development and Research Centre (IDRC) provided funding for the dissertation field research through its Doctoral Research Award. Without the award, it would have been extremely difficult to complete the field research especially given that it involved spending several months in Nigeria. I am grateful to the Centre and the evaluators of my proposal for believing in the project. I am particularly grateful to Dr. Rich Fuchs, my counsellor at the IDRC, who provided intellectual support throughout the period of research and while writing the initial research findings. Also at IDRC, Dr. Rita

Bowry and Mr. Jean-Claude Dumais, program and awards officers, respectively, provided moral support during the research.

My sister, Dr. Mercy Ette, editor of the London-based *NewsAfrica* magazine, painstakingly read through some of the chapters to check for historical accuracy.

In Nigeria, I received enormous assistance and support from several people: Dr. Edwin Madunagu, the director of CIINSTRID and his staff in Calabar gave me office space and administrative support. The staff of NYSC secretariats in Zone 1, Port Harcourt; Ikeja area office, Lagos; and the FCT headquarters in Abuja gave me access to NYSC members in their zones, as well as provided me with office space. I am particularly grateful to Messrs. Babatunde and Ben Ushie in Port Harcourt; Mrs. Ebun Bamgbose and her staff in Ikeja, my research assistant in Lagos, Mr. Seun Ifekoya; Messrs Kelechi Orji and Tony Ani in Abuja, and the 306 NYSC members in Port Harcourt, Lagos and Abuja who participated in the questionnaire portion of the research. I am also grateful to the 19 men and women who granted me interviews during the research. Engr. Titi Omo-Ettu not only granted me several hours of interviewing but also allowed me the use of his library and other facilities at his Executive Cyberschuul in Lagos. Mr. Chris Mammah, personal assistant on media affairs to Nigeria's Vice President Abubakar Atiku, facilitated access to the bureaucratic corridors of Abuja through a letter of introduction.

The Essien families (Mr. and Mrs Nsikak and Noami Essien and their children – Eme-Perle, Enobong, Idara and Unyime – in Lagos; and Mrs Mary Essien and her children – Gideon and Daniel – in Calabar) made their homes and resources available to me whenever I was in their cities. Messrs. Godwin Akpan and Moses Ikoh, Afi-Girl, Uwakmfon and Arit were some of the people in Calabar who assisted in various ways. My "big brother" in Lagos, Mr. Emeka Eluem Izeze, managing director of Guardian Newspapers Limited in Lagos provided access to the rich Guardian media library. I also acknowledge the assistance of his personal staff, especially Patience and Dotun. *The Guardian* telecommunications correspondent, Mr. Sonny Aragba-Akpore, helped with contacts in the Lagos IT circles. My other "big brother," Mr. Paul Usoro, a legal expert on telecommunications, used his humour and access to ease some of the stress of doing research in Nigeria.

My younger brother, Mr. Francis T. Akpan, was constantly around to provide much needed emotional support during the research. Mr. Moses Essiet was especially generous with his time and resources in Calabar and Port Harcourt. Alice Ekpo, my niece-in-law, lovingly tended the hearth on the weekends I spent in Abak. I remember her selfless service with nostalgia. My nephew-in-law, Ndifreke Ekpo, acted as my driver on those weekends in Abak. I am also grateful to my daughter, Nefertiti Aquah, for the "stolen moments" in Calabar when she did what only teenagers do best – rebel – just so she could spend time with me. The thought of seeing her, even if briefly, when I returned to Calabar, my research base, made the weeks spent in the research field go by faster. I remain eternally grateful to these people in Nigeria – and many others whose names do not appear here.

I also gratefully acknowledge the emotional and spiritual support of my family during the research and writing of this dissertation. My husband, Tim Obong, worked overtime to provide humour, spiritual, emotional and material support to facilitate the writing and completion of this dissertation. He was always cheerful and understanding and never complained when my "please give me five minutes to complete this paragraph" routinely became hours shut away in the study. His patience is phenomenal! I am deeply grateful to our soon-to-be born baby, Iniobong Idaraesit, who "cooperated" with me such that I had an uncomplicated pregnancy during the stressful months of writing.

I will be forever grateful to my parents, Mr. Timothy and Mrs. Dorothy Akpan, for starting and facilitating the process that has brought me to this point. They believed in the value of formal (Western) education in a society and time when it was more "profitable" to marry off daughters than "waste" money in sending them to school. They sacrificed much to ensure that I would *eventually* get here. My Canadian family, Mr. Russell and Judy Mills of Ottawa, took up the baton when they opened their home and hearts to me in 1995. God used their act of selfless and unconditional love to make my "Canadian experience" (which includes the ability to start and complete this program) the best anyone could have dreamed about. And more. I continually thank God for his grace. And to him be all the glory!

Table of Contents

Chapter 1: Introduction

1:1 The Issue 1
1:2 Information and communication technologies: A conceptual analysis 4
1:3 Earlier links between ICTs and socio-economic development 18
1:4:1 ICTs and development: Nigeria as a case study 23
1:4:2 Nigeria and ICTs for development: Crucial factors 24
1:5:1 The dissertation 27
1:5:2 Research questions 32
1:5:3 Research objectives 33
1:5:4 Theoretical framework 35
1:5:5 Research methodology 35
1:5:6 Research Techniques 38
1:6 Organization and structure 44
References 47

Chapter 2: Theories of development, information and communication technologies and the information society

2:1 Introduction 52
2:2 Theories of development 53
2:3 Modernization theory of development communications 65
2:4 ICTs and development: Emerging theoretical perspectives 73
2:5 Definitions and theories of the information society 77
2:5:1 Defining the information society 78
2:5:2 Theories of the information society 85
2:6:1 Toward a critical theory of ICTs and development 105
2:7 Conclusion 109
References 111

Chapter 3: A History of Nigerian economic development

3:1 Introduction 118
3:2 Problems with development in Nigeria 126
3:3 History of economic planning in Nigeria 137
3:3:1 Ten-Year Plan of Development and Welfare for Nigeria, 1946-56 144
3:3:2 Post-independence national development plan, 1962-68 147
3:3:3 Second National Development Plan, 1970-74 150
3:3:4 The Third National Development Plan, 1975-80 152
3:3:5 The Fourth National Development Plan, 1981-85 155
3:3:6 The Structural Adjustment Program Years, 1986-88 157

3:3:7 The Fifth National Development Plan, 1988-92 168
3:3:8 Post-Fifth National Development Plan 171
3:4 Nigerian Economic Policy: 1999 to the present 175
3:5 ICTs and national development plans 179
3:6 Conclusion 181
References 185

Chapter 4: A country's journey to the future: The policy framework

4:1 Introduction 188
4:2 The National Policy on Telecommunications (NPT) 197
4:3 Implementation of the NPT 204
4:4 The National Policy for Information Technology (NPIT) 215
4:5 Implementation of the NPIT 222
4:6 Contributions of the private sector 226
4:7 Critical and feminist reading of Nigeria's policies on ICTs 229
4:8 State and private sector alliances 241
4:9 Conclusion 244
References 248

Chapter 5: Information and communication technologies in the public sector: Usage and diffusion

5:1 Introduction 250
5:2 Patterns of ICT usage: Who uses what, when and how? 255
5:2:1 The Presidency 256
5:2:2 Ministry of Science and Technology 262
5:2:3 Federal Ministry of Information and National Orientation 265
5:2:4 Ministry of Communications 269
5:2:5 Federal Ministry of Education 277
5:2:6 ICT usage by policy implementing agencies 281
5:3 Analysis of ICT use and diffusion in the public sector 285
5:4 Prospects for the e-revolution 290
5:5 Conclusion 293
References 296

Chapter 6: Patterns of usage of information and communication technologies: The societal context

6:1 Introduction 297
6:2 Penetration of ICTs in Nigeria: The number question 303
6:3 Awareness and perceptions of ICTs 308
6:4:1 Patterns of ICT usage 315

6:4:2 Most frequently used ICTs and intensity 315
6:4:3 Purposes of ICT usage by respondents 323
6:4:4 Points of access 327
6:4:5 Sophistication of use 333
6:5 Attitudes to and expectations about ICTs 335
6:6:1 Common themes 338
6:6:2 Emerging issues: Awareness, access, affordability and availability 341
6:7 Conclusion 348
References 354

Chapter 7: Making the connections: Narratives of information and communication technologies and socio-economic development

7:1 Introduction 355
7:2 ICTs in the land of mythologies 361
7:3 Narratives of improvement and transformation 371
7:3:1 Emmanuel Ekuwem 371
7:3:2 Esther Gunda 375
7:3:3 Olatokunbo Oyeleye 378
7:3:4 Ibukun Odusote 379
7:3:5 Tajudeen Diekola Oyawoye 381
7:3:6 Eunice Eigbefoh 382
7:3:7 Chris Uwaje 373
7:3:8 Etim Amana 384
7:3:9 Freeborn Omueze 385
7:3:10 Tunde Olaoye 385
7:3:11 Gabriel Ajayi 386
7:3:12 Boye Olusanya 387
7:4 Common themes 388
7:5 Conclusion 404
References 409

Chapter 8: Potholes on the information superhighway … and detours

8:1 Introduction 411
8:2:1 Institutional Framework 417
8:2:2 Institutional detours 427
8:3:1 State of the infrastructure – telecommunications, power and import dependency 428
8:3:2 Infrastructure detours 437
8:4:1 Levels of poverty and illiteracy 446
8:4:2 Questionable detours 448

8:5:1 Ideological and cultural framework 450
8:5:2 Ideological and cultural detours 457
8:6:1 Ethnicity 462
8:6:2 Ethnic detours 466
8:7 Section summary 469
8:8 Prospects of ICTs for socio-economic development in Nigeria 473
8:8:1 ICTs as indices and objectives of development 474
8:8:2 ICTs as tools of development or means to other development goals 477
8:9 Conclusion 488
References 491

Chapter 9: Prospects for a Nigerian information society: Conclusion

9:1 Introduction 494
9:2 Review of the research 495
9:3 Conclusions from the research 513
9:4 Future Scenarios 523
9:5 Implications of research for development studies 527
9:6 Areas for future research 530
9:7 Summary of main arguments 533
References 536

Appendix A: The Questionnaire 537
Appendix B: Cities of research 553
Appendix C: List of interviewees 557

List of Tables and Charts

Table 4-1: NITDA's IT Parks 221
Table 5-1: ICTs used in Aso Rock, The Presidency 259
Table 5-2: ICTs used in the Ministry of Science and Technology 264
Table 5-3: ICTs use in the Federal Ministry of Information and National Orientation 268
Table 5-4: ICTs used in the Ministry of Communications 272
Table 5-5: ICTs used in the Federal Ministry of Education 280
Table 5-6: ICTs used in the Nigerian Communications Commission 283
Table 5-7: Diffusion and usage of ICTs in some government offices in Abuja 289
Table 6-1: Level of ICT penetration in Nigeria 304
Table 6-2: Purpose of ICT usage 324
Table 6-3: Destination and origin (of last ICT activity) 325
Table 6-4: Point of last ICT access 328
Table 6-5: Expectations of the potentials of ICTs (by percentage of respondents) 337

Chart 6-1: Awareness as measured by identification of ICTs 308
Chart 6-2: Awareness of ICTs analyzed by city of research 309
Chart 6-3: ICTs used in the month prior to participation in the research 316
Chart 6-4: Respondents who had never used some of the ICTs 320
Chart 6-5: Top most important socio-economic concerns in Nigeria (by percentage of times selected) 335

Chapter 1

Introduction

1:1 The Issue

The conference was not different from any other academic conference which everyone on the "conference circuit" is familiar with. But this one had a little twist. Though it was a conference on the *social implications* of computers in developing countries, it was largely very technical and seemingly removed from the *social*. Participants at the 2000 conference of the International Federation for Information Processing (IFIP Working Group 9.4) held in Cape Town, South Africa were mostly drawn from information science, informatics, information management and computer science. With just a handful of people from the social sciences, one could not help but constantly ask: where were the social scientists? And especially, where were the political scientists?

The absence of political scientists at this and similar conferences has always been conspicuous given the heated theoretical and policy discussions in recent years about the potential for socio-economic growth in developing countries embedded in new information and communication technologies (ICTs). The literature has stressed the capacity of these technologies to solve many of the problems confronting developing countries. It has thrown up issues such as development and technological (or material) capabilities of countries – previously major items on the research agenda of political scientists. It is ironic therefore that political scientists – especially those in the sub-fields of comparative politics and international political economy – are seemingly hesitant to join the debates on the connections between ICTs and development. Certainly, the nature of ICTs (both the practice and theoretical discourse) inherently elicits an interdisciplinary approach and does not minimize the work of scholars outside political science. But one argues that the ICTs-for-development discourse has a central place within the discipline of political science and should therefore attract more attention from those in the field than is presently the case. This is especially so given that at the level of policy, many developing countries particularly those in Africa, are embarking on strategies for building national information infrastructures to connect them to what Castells (1996) calls the global network society. They are also acquiring and deliberately using other ICTs for development projects. Thus the ICT-for-development discourse should be centrally located within the discipline of political science and not be ignored by scholars in the field. This dissertation in part attempts to bring ICT and development into political science, albeit with full acknowledgment that the subject does not "belong" to any one discipline.

But before one gets into an explanation of this dissertation research, its objectives, questions, theoretical framework and methodology; and the gamut of discussion on the prospects of ICTs for socio-economic growth in developing countries, it is essential that one considers the technologies that constitute ICTs and why they have featured in recent debates both as a theoretical paradigm and as significant development tools. This helps in setting up the issues that will feature in the dissertation as well as delineate the parameters of research and analysis.

This chapter therefore essentially introduces the dissertation – the research and analysis. It is divided into four sections, including this introductory section. In the next section, I present a conceptual analysis of ICTs in which I describe the different technologies and how their functions are implicated in the ICT-for-development discourse. I particularly highlight the development and diffusion of the Internet, considered in this dissertation as a key technology which enables the use and applications of other ICTs. The account of the Internet is rather detailed because much of the debates on the potential of ICTs for socio-economic growth are centred on the communication and information features of the Internet. In many places, such as Nigeria (as found during the field research), the concept of ICT is almost synonymous with the Internet even as the Internet is dependent on other technologies such as the telephone and computer. For instance, a majority of the participants in the questionnaire portion of the research easily identified the "Internet – E-mail and World Wide Web" as an ICT while the computer and telephone were selected less frequently as ICTs. The conceptual analysis of ICTs is followed by a section in which I discuss earlier links between ICTs and development. The objective is to show how classical modernization theory of development communication strongly structures the current ICT-for-development discourse. In the final section of this chapter, I discuss the dissertation itself – starting with an explanation of the choice of Nigeria as a case study, justification of the research topic, questions, theoretical framework (which is developed more fully in Chapter 2) and the research methodology.

1:2 Information and communication technologies: A conceptual analysis

Need for a definition: In the literature, ICTs are sometimes simply referred to as information technology (IT) with the obvious emphasis on their capacities for the storage and dissemination of information (Dearnley and Feather, 2001; Avgerou, 1998, Dordick and Wang, 1993, Schiller, 1984a, 1986) In other instances, they are referred to as information processing technologies, a terminology that implies the ways in which the technologies can be used to facilitate other activities (such as keeping of health records to enhance the delivery of healthcare services). Still others use the concept of ICTs (and sometimes in the singular) to capture the integrated nature of these technologies, and thus their prospects for, or challenge to, use as tools for socio-economic development. (Heeks, 1999; Credé and Mansell, 1998; Howkins and Valantin, 1997). "Information age" is also frequently used to stress the new "information mode of production" and the rise of information as a "standard in the realm of exchange value, replacing gold and raw materials." (Rajaee, 2000: 65) The UNDP *Human Development Report* for 2001 uses "network age" to stress the connections between ICTs and the processes of globalization. The different terminologies imply different emphasis and approach to the understanding of the implications of these technologies for the 21st century. And it is not by accident therefore that the issue has been researched and analyzed from various disciplinary fields, most frequently management information systems/science, information science, informatics and computer science.

In the attempt to avoid the problem of defining IT or ICT, some authors now refer to the different technologies individually. This however raises new problems as many people make the common mistake of collapsing ICTs into a single narrow view – either as computers, telephone, or the Internet. Regarding ICTs as just access to a telephone or the Internet highlights the communication capabilities of these technologies and therefore succeeds in silencing objections to the emphasis placed on them as development tools. This approach also limits a full understanding of the scope and capabilities of these technologies. In this dissertation the focus will be on the socio-economic applications of these technologies, with a particular emphasis on how they can be, and have been, used as tools to accelerate the economies of developing countries. To achieve this purpose, "ICTs" as well as "ICT" shall be used here in acknowledgement of the convergence of the technologies and therefore their multi-sectoral and multi-purpose applications. This understanding allows for a holistic analysis of the socio-economic implications of the technologies for developing countries.

The technologies of ICTs: New ICTs (which are not so new, now in 2002) are essentially the outcomes of the convergence of developments in computer and telecommunication technologies (Jipguep, 1993). The concept itself refers to the "fusion of computer and communication – especially through the Internet – (in ways that reduce) cost, time and distance (thus) launching an era of global networking." (Ibid.) ICTs refer to information processing generally, computer communication (the Internet, e-mail), telephone, fax, satellite communication, videotext and cellular phone.

Hamelink (1997) defines ICTs as encompassing "all those technologies that enable the handling of information and facilitate different forms of communication among human actors, between human beings and electronic systems, and among electronic systems."[1] He sub-divides them into five categories: capturing technologies (with input devices that collect and convert information into digital form such as keyboards, bar code readers and image scanners); storage technologies (devices that store and retrieve information in digital form such as disks and smart cards); processing technologies (systems and applications software required for the performance of digital ICTs); communication technologies (the devices, methods and networks that transmit information in digital form such as digital broadcasting, digital cellular networks, the Internet and satellite communication systems); and display technologies (output devices for the display of digitized information such as computer display screens, television sets, printers and digital video discs).[2] While these technologies are different at the point of their inventions, further developments have fused them such that one cannot talk about one without the other. For instance, the Internet is a technology that integrates both computer and telecommunication technologies. As Dearnley and Feather (2001) point out:

> … The Internet is dependent on the effectiveness of another communications system, that of the telephone. Data is actually transmitted along the same wires and microwave links as voice signals. It is perfectly for that reason that it has been possible for its use to spread so rapidly in those countries where there has been virtually universal access to voice telecommunications for several decades.[3]

---

[1] Hamelink, Cees J., *New Information and Communication Technologies, Social Development and Cultural Change,* United Nations Research Institute for Social Development Discussion Paper No.86, 1997, p.2.

[2] Ibid., p.3

[3] Dearnley, James and John Feather, *The Wired World: An introduction to the theory and practice of the information society* (London, England: Library Association Publishing, 2001) p.44-45

The Internet as a key ICT: All ICTs feature in the debates that link them with development, but many of the references to them and their capacities for development are usually about the Internet, and the related hard/software – telephone, computer, modem and the access to the Internet itself, databases and all aspects of the World Wide Web, and the technologies that enable networking. This explains the emphasis in the literature on how information translates to knowledge and in turn leads to development. The Internet also gives rise to Castells's concept of the global network society (1996), Webster's "information society" (1995)[4], Rajaee's information age (2000) and Keohane and Nye's "information revolution." (1977) And according to Poster (1999), the Internet combines

> all previous communications systems, amplifying them in new ways and integrating them with digitized computer apparatuses. (It) also provides the innovation of combining the decentralization of the telephone network with television's capability of reaching large audiences. And it improves on each of these: The Internet's decentralization is more developed than that of the telephone systems since it avoids the controls of a circuit-switched technology and private ownership. It improves on television's broadcast model because it is a many-to-many, interactive system …[5]

The Internet is also a technology of technologies because of its correlations (and somewhat interdependence) with other ICTs. The development of the technology – often hailed the wonder invention of the 20th century – is central to the current theoretical and policy attention on ICTs, especially their potentials for socio-economic development. While the story of the Internet has been told and retold, it does bear some repetition in order to fully understand the central theme of this dissertation and the issues, such as access, that it raises.

---

[4] One must note that Webster is very critical of the idea of the "information society" but used it for practical reasons as the title of his book, *Theories of the Information Society* (London, England: Routledge, 1995).

[5] Poster, Mark, "National Identities and Communication Technologies," *The Information Society*, 15, p.235

There is a lot of fuzziness about the origins of the Internet, but the popular version is that it was developed in 1969 by the US military for the purposes of protecting US strategic military information in the event of a nuclear attack. (Akpan, 1996) It came into public usage in 1974, starting in the academy and spreading rapidly, especially in the last six years, to general usage in North America and Western Europe. Rajaee (2000) writes that work on what became the Internet started in 1965 when the United States Department of Defence set up the Advanced Research Projects Agency to explore ways of connecting different computers in real time.

> Soon in 1969, researchers at four US universities created the first network, the ARPANET, by connecting the universities of Stanford, Utah, and California at Los Angeles and at Santa Barbara. From then on, the network began to grow literally by the minute. In 1973, the ARPANET went international by connecting the American network with University College in London, United Kingdom, and the Royal Establishment in Norway. In 1979, three graduate students in North Carolina established the first USENET newsgroup and opened the net to the ordinary public.[6]

A similar but more detailed account comes from Dearnley and Feather (2001) who credit Paul Baran, an American electronics engineer, with "inventing" the Internet. Baran, while working for the Rand Corporation, developed his ideas about networks which he had nurtured in another context. He eventually came up with the concept of "subdividing information into small packets, which could then be transmitted through telecommunications networks between computers." (Dearnley and Feather, 2001: 30) According to this account, initially, the telecommunications companies were "suspicious to the point of hostility" but the military was interested in its prospects for nuclear defence.

---

[6] Rajaee, Farhang, *Globalization on Trial: The Human Condition and the Information Civilization* (Ottawa, Ontario: IDRC, 2000), p.72

> Computer scientists (at the Advanced Research Projects Agency, ARPA) came across Baran's work, and commissioned him to look at its defence potential. In October 1969, working with the University of California at Los Angeles (UCLA), ARPANET successfully established a network initially linking four academic computing sites. (Ibid)

This marked the beginning of what we now know as the Internet. Over the next one year, the United Kingdom and France embarked on projects that would subsequently enable international networking of computers. But Internet activity occurred mostly within the military and academia until about a decade later when the US National Science Foundation, "the sponsor of much of the science that had created ARPANET, agreed in 1979 to allow commercial exploitation of the network."[7] Still, it took another decade for the Internet to move out of academia and really explode into the public domain, with 1995 marking the watershed year of the technology when usage doubled.

Nua.com, a website (http://www.nua.ie/surveys/how_many_online/index.html) on Internet statistics reports that 544.2 million children and adults had accessed the Internet at least once during the three months prior to February 2002.[8] Of this, Africa represented the lowest number of Internet users, at 4.15 million, though Mike Jensen, an authority on ICT connectivity in Africa, points out the difficulties in getting accurate data on Internet usage in Africa because of the phenomenon of multiple users of accounts.[9] Nua.com deals with this problem by excluding numbers of account holders but counts access – regardless of account ownership. The second chapter of the 2001 UNDP *Human Development Report* notes that there were more than 400 million users of the Internet at the end of 2000 and predicts one billion users by 2005. While the percentage of world population on the Internet was 6.7, that of sub-Saharan Africa was 0.4 percent, though all 54 African countries now have Internet access.[10]

---

[7] Dearnley, James and John Feather, *The Wired World: An introduction to the theory and practice of the information society* (London, England: Library Association Publishing, 2001, p.31.

[8] In the explanation of its methodology, the site notes that where there was no information on access in the prior three months, its researchers took six months and where there was no information for that period, they took the last one year or ever.

The Internet has become one of the most powerful technologies of the 20th century, even as there is an ongoing debate about whether it is any more revolutionary than the telegraph was in the 19th century. For instance, Mackay (in Held, 2000) argues that the telegraph was more significant in shrinking time and space than the Internet has been. In fact, "the history of the telegraph suggests that there is nothing dramatically new about recent communication technologies and global communication, and cautions us regarding the more apocalyptic claims which are made about 'the information revolution.'"[11] Dearnley and Feather (2001) agree that the Internet (particularly its public domain, the World Wide Web) has radically changed "the way in which we live and work."[12] But they also note that the Internet is "merely a system for communicating data. It is powerful in terms of its speed and capacity but conceptually no different from any other communication system."[13] Whatever the case, the Internet has undoubtedly enabled easier, faster and cheaper means of communication in ways never before imagined. As Poster (1999) points out, "the digital form of information on the Internet provides the advantage of virtually costless copying, storing, editing, and distribution." (p.235) Through this technology, the world is moving fast toward the actualization of the global village that McLuhan could only have imagined when he wrote *Understanding Media* (1964).

---

[9] Jensen, Mike, "African Internet Connectivity," available at http://www3.sn.apc.org

[10] UNDP *Human Development Report*, p.40

[11] Mackay, Hugh, "The Globalization of Culture?" in Held, David, ed., *A Globalizing World? Culture, Economics* (New York, New York: Routledge, 2000), p.71

[12] Dearnley, James and John Feather, *The Wired World: An introduction to the theory and practice of the information society* (London, England: Library Association Publishing, 2001) p.34. Rajaee (2000) highlights the pivotal role of the WWW, created in 1989, in promoting the rapid effects on society that the

Information as a factor of production: Already, the Internet and related communication technologies have led to what David Harvey (1989) refers to as spatio-temporal compression. Distances and spaces have been reduced in such ways that time has become a driving factor of production in the current global economy. For instance, it is no longer, "how far is it to Hong Kong?" Rather, "what time is it in Hong Kong?" Or, "is the West Coast awake yet?" Combined with advances in transport technology, this time-space compression has created what some scholars refer to as a global network society (Castells, 1996) or the information revolution (e.g. Keohane and Nye, 1977), though Mowlana (1997) rejects the latter term. For him, what is happening is a *communication* revolution because the direction of information flows remains the same (mainly from the

---

Internet has. He notes that: "an important date for the information society and for civilization was 1989, with the invention of the World Wide Web, comparable in important to the industrial and agricultural revolutions for industrial and agrarian societies." (p.72)

[13] Dearnley, James and John Feather, *The Wired World: An introduction to the theory and practice of the information society* (London, England: Library Association Publishing, 2001) p.44

North to the South), and is therefore as exclusionary as before. The assumption is that we have moved from a production and extraction economy to a knowledge-based economy where information has become a crucial factor of production. People and countries that want to get ahead in the new economy must be information rich. And the Internet and other technologies of communication enable access to this vital information. In this new economy, all people and countries are presumably operating from a level playing field with equal access to the same information especially through the unregulated and uncontrolled Internet. Poor countries therefore consider it imperative that they exploit this information to achieve their socio-economic development goals.

So much is made about information (and knowledge) and its usefulness for all economies, but left out of the debate usually is any analysis of the *nature* and *source* of the information. Those arguing from the political economy approach, also known as critical theorists, (such as Frank Webster, 1995 and Herbert Schiller, 1984a, 1986) agree that information is a driving force of economic growth. For instance, Schiller (1986) argues that "information increasingly serves as a primary factor of production, distribution, administration, work, and leisure."[14] However, he and his colleagues, also focus on the direction of information flow and how the type of information being produced represents continuity of old agendas of capitalism and exclusion. "From the time of Gutenberg, and even before, information production has been controlled and has led to social stratification based on unequal access. What is of special significance about the current situation is the centrality of information in all spheres of material production as well as its increasing prominence throughout the economy." (Schiller, 1986: 102) Again, as summarized in Webster (1995:81), Schiller agues that "the contemporary information environment is expressive of the interests and priorities of corporate capitalism and an essential component in sustaining the internationalist capitalist economy." It is his opinion that the market principles "most emphatically the search for profit maximization, are quite as telling in the informational realm as they are throughout capitalist society." (Ibid.) The point is that the same factors that led to the exclusion of poor countries from participation in the international capitalist economy are not likely to change in the "information society" considering that it reflects capitalist imperatives: corporate and class concerns and market priorities. These "are the decisive influences on the new computer communications facilities – and simultaneously, these informational developments sustain and support capitalism." (Webster, 1995:77)

---

[14] Schiller, Herbert I., *Information and the Crisis Economy.* (New York: Oxford University Press, 1986) p.102

Dependency theorists (such as dos Santos, 1998, and Amin, 1993) and to some extent, world-systems theorists (such as Wallerstein, 1974, 1975, and Gills, 1993) have often claimed that countries in the periphery have remained poor because of the unequal relationship of dependency and exchange that exists between them and rich countries in the core. They argue that the same process that leads to development in the core results in underdevelopment in the periphery in a process that Frank (1967) calls the "development of underdevelopment." Of course, dependency analysis has since grown more sophisticated (So, 1990) with perhaps a reluctant shift in focus to internal problems and the collusion of the national capitalist class with international capitalist interests to perpetuate underdevelopment and the impoverishment of the people (for instance, Peter Evans's theory of triple alliance, 1979). The "new" dependency also admits that development can occur in a relationship of dependency, such as associated-dependent development.

Many of the assumptions of both classical and new dependency analyses need to be re-examined in the present context of the prospects for socio-economic development in a technology-driven and information-based global economy. While dependency theorists (classical or new) have not joined in the debates on the role of ICTs in development, much of their arguments, particularly those on unequal power relations and issues of control, are relevant in the present discourse, if only to support the theory of continuity put forward by scholars such as Schiller and Miles (1996).[15] Writing in a different context, Martinussen (1997) unwittingly sounds a note of caution by showing the deliberate process in which core countries ensure that "technological transfer" from the core to the periphery does not lead to any sustainable indigenous production of technologies. Also, as Hamelink (1997) notes, while the volume of "technology transfer" increased in the 1960s, "the transfer usually consisted of end-products rather than the technology per se (and much of it) took place as intra-firm movements (and) conditions under which the transfer took place were often disadvantageous for (recipient countries) and … much of the technology was inappropriate, obsolete, over-priced, or all these together." (p.13) The result was that by the 1970s, the major beneficiaries of "technology transfer" were the manufacturers of the technologies (in this case ICTs such as telephone), the banking industry and the local elites who used the technology.[16] Will this pattern be repeated in the 2000s as developing countries scramble for the new ICTs in hopes of generating socio-economic growth?

---

[15] I have not yet come across any analysis on ICT and development that is deliberately argued from a dependency perspective. The closest are Castells's explanation of continued underdevelopment in sub-Saharan Africa, and the political economy approach adopted by people such as Vincent Mosco and Herbert Schiller, who are not explicitly "development scholars." Even then, the political economy approach, while sharing the same Marxist origins, is vastly different from dependency analysis.

That information plays a crucial role in the present global economy is not in dispute, but the discourse on its imperativeness for developing countries raises a number of questions. For instance, has its pervasiveness resulted in a new socio-economic classification: the information rich and the information poor? Is all information including those produced by the culture industries of the West (particularly the United States) relevant to the particular needs of poor people in developing countries? As Heeks (1999) argues, data (the first stage in the production of information) is

> created within a particular context and retains embedded characteristics of that context: it contains what its creators do know and do feel is important and misses out what they do not know or do not feel is important; it reflects their political and economic beliefs; it reflects their culture.[17]

If information is the new factor of production and commodity of value, it is conceivable that its production and access to it will follow the pattern of earlier factors of production, namely capital. This then questions the prospects that poor countries can participate in the new economy as equals in ways that benefit them and their citizens. Given the present state of the technology and access, it is likely that people living in peripheral countries will remain mere passive consumers of information (and technologies) produced elsewhere.

---

[16] Makinde (in Murphy, et al, 1986) also raises the same cautions about real motives of technology transfer.
[17] Heeks, Richard, *Information and Communication Technologies, Poverty and Development,* Development Informatics, Working Paper Series, No. 5, p.8.

And within countries, former patterns of social relations and the class structure will ensure that people of particular socio-economic classes, age and ethnicity are excluded from the process of utilization of ICTs for socio-economic development. In Nigeria, new socio-economic cleavages are beginning to emerge between those with access to the technologies and those without. The "modernizing elites" (or, culture elites, as Chirot, 1994, refers to them) are pushing a discourse that privileges the inevitability of ICTs and their utility as development tools. And yet, access to the technologies is circumscribed by income, age, gender and geographical location (with those in the urban centres having relatively greater access than the 65% who live in the rural areas).

This development will likely lead to several levels of "peripheralization." Without indigenous production of ICTs and information, Nigeria will remain at the margins of the global information society externally, and internally many Nigerians will be excluded on the basis of gender, class/ethnicity and age. This can be avoided if policymakers deliberately work toward equality and equitable distribution of resources and therefore shift the dynamics of the country's social relations and structures. These are some of the issues that will be discussed in this dissertation.

What ICTs can and cannot do for developing countries: For now though, one examines some of the specific postulations made about the different ICTs and their potentials as tools for socio-economic development in poor countries. These perceived potentials are indicated in contemporary discourse which links ICTs, particularly the Internet, with development. One outcome of this linkage is the proliferation of projects initiated by some international development agencies, for example, Canada's International Development Research Council (IDRC), to get African countries connected (via the Internet) to the rest of the world. The assumption is that lack of information has been the bane of underdevelopment, and the arrival of the Internet will provide a way out for developing countries.

According to the 1999 *Human Development Report*, "ICT can be a tremendous force for human development for all those concerned – by providing information, enabling empowerment and raising awareness." (p.58) The authors however caution that "information is only one of many needs. E-mail is no substitute for vaccines, and satellites cannot provide clean water. High-profile technological projects risk overshadowing basic priorities. (Ibid.) This note of caution seems to have been glossed over by scholars and policymakers, and even recent UNDP human development reports have been as strident as others in extolling the wonders of the new technologies of information. For instance, Chapter 2 of the 2001 *Human Development Report* has expanded on some of the 1999 analysis but without the cautionary tone.

The literature is generally filled with references to what information can do to develop sub-Saharan African countries, as if information in itself provides the material basis for development. As someone succinctly put it, ICTs "may help some people perceive opportunities previously ignored ... but if no opportunities exist, communication wouldn't create them." (Fleming, 1996: 2) The arguments have certainly become more sophisticated and critical in recent years, but the utopian note still pervades both the literature and policy in many sub-Saharan African countries.

1:3 Earlier links between ICTs and socio-economic development

The linkage between ICTs and development is not new. It has been around for as long as development theory has existed. In Chapter 2, I look at the theoretical origins of the assumptions that link ICTs with economic growth generally but particularly in developing countries. In this section, I briefly examine the origins of these developments from the perspective of policy.

In the late 1950s and 1960s, several countries were coming out of colonisation and regaining their political independence. This coincided with the ascendance of the United States as the global hegemon following the end of the Second World War and the ensuing Cold War. As a global hegemon, the United States was interested in the fate of the newly decolonised countries, mostly because it did not want them to turn to the Soviet Union for assistance. There was therefore a flurry of policies aimed at helping the new countries to industrialize particularly along the patterns of the US. The development of telecommunication infrastructures was emphasized as a major factor in facilitating the rapid economic, social and political changes in these countries. They were also encouraged to develop their media, particularly print and broadcasting. Beyond being indices of "modernization," these technologies and infrastructure would expose the people to information that would aid in their processes of development. (This point will be developed further in the next chapter.) It got so that in the 1950s the UNESCO established a threshold of access to media of communication. For a country to seriously begin the process of development, the UN agency suggested, it had to "provide ten newspaper copies, five radio receivers and two sets of cinema seats for every 100 inhabitants."[18] Exposure to these media of information was expected to automatically enable people in "traditional" societies to acquire skills and attitudes that would usher them into the dawn of a modern (western) era of development. The countries themselves showed enormous interest in developing their information and communication infrastructure. "It was assumed that the technologies which had lifted the advanced industrial countries to unprecedented heights of material wealth could be used to accomplish the same results in the developing world." (Hamelink, 1997:12)

The problem however was that many policymakers in these countries embarked on the wholesale importation of the technologies from the industrialized countries without any serious efforts at indigenous development.

> Rarely did the countries at each stage of the decision-making process raise basic questions such as: Does the country have the technology? Can it develop the

---

[18] UNESCO research paper no. 9., 1955

> technology? Can it adapt imported technology? How long will it take? What resources will be needed? What trade-offs between importing technology now and waiting to develop it at home? Why not import now, but plan in such a fashion that there will be no repetitive imports in the future? (UNCTAD, 1985:162, quoted in Hamelink, 1997)

Nigeria, a country notorious for importing everything from capital-intensive products to consumer items such as common salt, during the oil boom of the 1970s awarded enormous contracts for the procurement of telecommunication equipments to develop the country's telecommunication infrastructure. One of such contracts, awarded to the International Telegraphs and Telecommunications (ITT), was one of the issues that haunted the presidential campaign of late Moshood Abiola, presumed winner of the botched presidential elections of 1993. He was the executive vice-president, Africa and the Middle East, for ITT when the contract was awarded. His political opponents accused him of making profits for himself by importing used and obsolete equipment. Abiola always denied the allegation saying the imports were according to the agreed specifications, but the problem was that when they arrived, there was no proper (and climate-sensitive) storage. They were therefore abandoned to the elements. Whatever the case, the equipment were never installed and many critics have always blamed Nigeria's poor telecommunications infrastructure on that failed project.

But it was not only in Nigeria where the spirited effort to develop the communication and information infrastructures failed. Even in countries where adequate frameworks had been laid, there were questions concerning the direction of information flow (a debate that is still valid today) and the real beneficiaries of these technologies. These questions made the agenda of the UNESCO and the United Nations General Assembly and the result was a formal discussion about the need for a New Information and Communications Order. "When the dust subsided, many developing countries – adverse experiences not withstanding – expressed a strong interest in receiving foreign aid to develop their information and communication infrastructures. Aid programs were established in the fields of mass media and telecommunications development." (Hamelink, 1997:13) The concern for the state of telecommunications in developing countries led to the establishment of the Maitland Commission at a conference of the International Telecommunication Union (ITU) in 1982.

Three years later, the Commission released its report titled *The Missing Link*. Its conclusions included: an urgency to grant higher priority to investment in communications, improved effectiveness of existing systems, new methods of financing to deal with scarcity of foreign exchange in developing countries, and a more effective role in ICT development by the ITU. (Hamelink, 1997) The report, "which revealed major differences in the provision of basic telephone services throughout the world" (Credé and Mansell, 1998) again raised interests in ICTs as "technologies that could markedly improve industrial performance and increase economic activity. Furthermore, there was a common belief that ICTs in fact enable developing economies to leapfrog over industrialization into a post-industrial society." (Hamelink, 1997: 14) Hamelink points out that while developing countries saw the potentials that these technologies had for their socio-economic growth, not many of them were eager to jump in because of concerns about the social risks.

> People were concerned about issues like the potential for cultural colonialism, the replacement of jobs by machines, and the erosion of individual privacy and national sovereignty. Towards the end of the 1980s these fears seemed to have abated, and the general view on the relation between ICTs and development entered a third and current phase. (Ibid.)

The fears and anxieties may have abated for policymakers in developing countries. However, these issues are now being raised in the context of post-industrial societies. Scholars, such as Jurgen Habermas is known for his notion of the declining public sphere and integrity of information, and Anthony Giddens' work on the surveillance state addresses the same questions of privacy.[19] Schiller (1986) is concerned about the threat to the sovereignty of some nation-states when other more powerful ones employ their communication resources to get information about them without their knowledge.

> Remote sensing, for example – scanning a territory with powerful sensors attached to orbiting satellites – routinely maps the globe, obtaining all sorts of resource information without requiring the permission of the scanned region's government. The recipients of this information, moreover, are generally the power centres in the few industrialized countries that possess the technical capability to interpret and to take advantage of the data. (p.99)

Despite these concerns, toward the end of the 1990s and now two years into the 21st century, debates about the inherent potentials that ICTs have for development have dominated the centre stage of policy and theory. This raises the need for a critical analysis of the process through which ICTs can be harnessed to achieve socio-economic goals, especially in developing countries. It would be useful if one could conduct research in all developing countries to actually respond to the question: how can ICTs promote the socio-economic growth of developing countries? But since this is not practicable, one country has been selected as a case study with the hope that the research findings in this dissertation will facilitate the understanding of the larger question of the connections between ICTs and development.

---

[19] In his *Runaway World* (2000), Giddens seems to have a more benign view of the erosion of individuality in an increasingly organized society where planning depends on information about people. At least, that is the sense one gets from his uncritical definition of globalization as "simply the way we live." He refers to a 24-hour global marketplace, and a global age very different from past eras. Globalization, he argues, is a "total change." It "is much more intimately linked to our lives. It is a shift in relationships where the global intersects with the private (resulting in) increasing connections between local life and global change."

1:4:1 ICTs and development: Nigeria as a case study

Nigeria is a rather late entrant to the discourse on the relationship between ICTs and development. As noted by a major player in Nigeria's ICT industry, the years of military dictatorship in Nigeria coincided with the revolution in information technology.[20] For instance, the first known e-mail activity in Nigeria occurred only as recently as 1994, when many other countries in the region (such as South Africa and Ghana) were already ahead on the "information superhighway." But with the formulation of two policy documents in 2000 and 2001 and partial deregulation and privatization of the telecommunications sector, the country seemed ready to make up for lost time. Thus, in many ways, Nigeria presents an interesting scenario as a case study of the development and diffusion of ICTs deliberately to promote economic growth.

---

[20] Ajayi, Gabriel, personal interview in Abuja, November 2001.

Nigeria possesses many of the characteristics of a developing country. These characteristics, according to Weatherby, et al (2000) include: delayed modernization, poor communication facilities, high illiteracy level, lack of skilled personnel, large population, lack of capital and appropriate technology, and unequal distribution of wealth. While these features are common in many developing countries, they are compounded in Nigeria by other conditions such as religious and ethnic conflicts, militarism and an over-bloated state operating alongside weak institutional structures, an interplay of which could pose major challenges to the application of ICTs as tools for socio-economic development in the country. In the following section, I briefly look at some of these features of the Nigerian society and the ways in which they may hinder or facilitate the harnessing of ICTs for socio-economic development. While the different African countries have unique developmental problems, an analysis of the ways in which Nigeria tackles its challenges and harnesses ICTs for development may provide policy directions for countries yet to engage with these technologies, or which are at the same level of ICT development as Nigeria.

1:4:2 Nigeria and ICTs for development: Crucial factors

The institutional framework within which ICTs are expected to operate: The late arrival of Nigeria into the discourse and practice of ICTs for development means that there are certain obvious inconsistencies in the institutional framework. For instance, some sectoral policies (such as education) are asynchronous with stated ICT-centred objectives. And this lack of harmonization in policies is characteristic of many developing countries and will therefore be a crucial factor in the success or failure of ICTs for socio-economic development in these countries. Also, the legal framework as it currently exists, especially in the area of online transactions, will determine the extent to which Nigerians can benefit from the opportunities presented by ICTs.

The ideological and cultural framework: It is widely argued that technology is not just the equipment, but comes bundled with certain sets of ideas. Technology therefore does not occur in a cultural or ideological vacuum (see for instance, Kalu, 2000 and Elul, 1963) and this may explain why the application of ICTs for development has varied even in countries as similar as Nigeria and Ghana with the two countries experiencing different outcomes. Nigeria, with its 250 ethnic and linguistic groups, is a very culturally diverse country, unlike any on the continent. And if culture or ideology plays a role in the invention and application of technologies, then Nigeria presents a good case in which to examine the ways that culture mediates the harnessing of ICTs as tools for socio-economic development.

State of the basic infrastructure: Nigeria is a country of 116 million people (according to current World Bank estimates), and yet there are less than 500,000 main phone lines in the country. The national telecommunications carrier, Nigerian Telecommunications Limited (Nitel), has a capacity of 718,000 landlines but just 400,000 were functional by the end of 2001. Of the 774 local government areas in the country, less than half (about 300) are connected to the national telephone grid, and these are not fully penetrated.

Nigeria currently imports all of its telephone equipment needs, including the basic telephone handset. The country therefore lacks the basic telecommunications infrastructure, though many ICT utopians consider this a blessing. The argument is that the country can go directly into the acquisition of state-of-the art technologies without confronting the cost of replacing obsolete equipment.

Poverty and illiteracy: It is argued that ICTs will lead to development in several ways, including raising the literacy levels and economic conditions of the people. But access to these technologies is also dependent on the economic condition and literacy levels of the people. Many ICT-for-development scholars and practitioners have argued that usage of ICTs will transcend these conditions mainly through the presence of community ICT centres (generally known as telecentres) and touch-tone technologies (which will use graphic rather than literary symbols). Again, Nigeria, though still in its ICT infancy, presents an interesting opportunity to explore these possibilities and thus examine the ways in which illiteracy and poverty will be crucial to the success or failure of ICTs for development in the country.

Ethnic divisiveness: Nigeria is constituted around 250 major ethnic and linguistic groups who in pre-colonial times were distinct and independent kingdoms, empires and nations. Their forced unification (as a result of colonization) has never been a *fait accompli* with the result that ethnic conflicts (the major one being the Civil War of 1967-1970) have been a constant feature of the Nigerian polity. There is a strong sense of ethnic identity and belonging which manifests in fierce claims to territory, land of birth and other space-specific identity formations. And yet a main feature of the information society (or capacities of ICTs) is the compression of time and space. And as some have argued, in this society (to which Nigeria aspires), geographical spaces and boundaries have collapsed and value has shifted to products and services and not "place of origin."

The Nigerian case therefore calls for an exploration of the potential conflict between these two essentially opposing concepts – space as a contested terrain and its irrelevance in the timeless and boundless cyberspace environment. The outcome of this latent conflict will either be a reassertion of ethnic identity or indifference to such primordial notions of space and ethnicity in the face of transcending technologies and economic rationale. Either outcome will be crucial to the success or failure of the implementation of ICTs as tools for socio-economic development in Nigeria.

1:5:1 The dissertation

The ICT-for-development discourse raises several multi-faceted and complicated issues. The attempt to understand and untangle them eventually called for a detailed research resulting in this dissertation which is a critical examination of the process by which ICTs can facilitate or hinder socio-economic development in Nigeria. The dissertation considers the current status of ICTs in the country, the role of the state, and policies and practices that are deliberately aimed at using ICTs as tools for socio-economic development. It covers the period from 1992 to December 2001 when several developments in the ICT sector took place. These include the setting up of the Nigerian Communications Commission (NCC), a key actor in Nigeria's ICT industry, the deregulation of the telecommunications industry, and formulation and implementation of the policies on telecommunications and ICT.

The focus on policy is underscored by the assumption that the role of the state in harnessing ICTs for development is pivotal to the achievement of Nigeria's overall socio-economic goals. There are several reasons for this. First, the state has a role to play in "supporting new forms of market facilitation, introducing effective regulation, promoting stakeholder dialogues, and providing public services appropriate to local conditions." (Credé and Mansell, 1998: 36) Related to this is the fact that given the capital-intensive nature of the project, the state needs to be actively involved in the development of ICTs. As Schiller (1986) suggests:

> The construction and launching of a communication satellite, for example, are multi-million dollar ventures, and these exclude initial costs of research, development, and experimentation. The outlays for cabling a metropolitan area are even more substantial. The manufacture of computers and the creation of computer/telecommunication networks are the exclusive preserves of a handful of giant firms or governments. (p.106)

While the costs of technologies generally have fallen since Schiller's book, *Information and the Crisis Economy,* was published, his point is still valid in 2002. This is even more so in the context of developing countries, many of which do not have existing functional telecommunication frameworks or capital to fund leap-frogging communication projects, such as launching an orbiting communication satellite.

Second, the United Nations Economic Commission of Africa (ECA) has already established a role for the state in Africa. In 1996, a ministerial commission of ECA met in Addis Ababa to work out what became known as the African Internet Society Initiative (AISI). African governments were mandated to formulate an integrated national information and communication policy involving network, access, and information and telecommunication policies. Thus, African governments are expected to promote and build national information infrastructures. The AISI also encourages governments to work toward increased connectivity in and between African member states and to assist each other in the use of ICTs as well as in the development of African information content for the information highway. This would mean that African countries will not just be "downloaders" of information but will also be content providers. The issue of communication (and transport) interconnectivity among African countries has re-surfaced in the New Economic Partnership for Development, the current continental project to promote development in Africa.[21]

Third, the state in Nigeria (as is in many other developing countries) is a key participant in the development of ICTs in the country because even in industrialized countries, the state has been involved in the development of the sector. For instance, in the early days of the Clinton Administration in the United States, building an "information superhighway" was supported and financed with public funds in order to expand public access. Also in the United Kingdom, the government developed the People's Network through the provision of Internet access and other computing facilities in public libraries.

---

[21] NEPAD got on the agenda of the G8 Summit held in Kananaskis, Canada, June 2002. Information on NEPAD and its mission were available at: http://www.nepad.org

> Public access is not, however, confined to libraries, and is increasingly common across all public services. Perhaps the most radical development in the United Kingdom has been the so-called University for Industry (UfI) whose Learn Direct network is intended to provide facilities for life long learning for everyone outside the formal education system.[22]

But beyond the provision of direct access to the public, the state in these countries has been important in making the policies that guide and drive the development of ICTs, even if the policies are actually implemented by the private sector. And in Nigeria, the involvement of the state, especially through regulating the sector, has led to growth in ICT usage in the country. For example, the licensing of three operators to provide mobile telephony services using the Global System of Mobile Communications (GSM) technology led to a rapid increase in teledensity in the country. Less than a year since the operators rolled out, there were already nearly 800,000 GSM-enabled mobile phone users in a country that had less than 500,000 functional phone lines in its 136 years of telecommunications history.[23]

Finally, previous development agenda in Nigeria (and other post-colonial states), as will be discussed in Chapter 3, have always been pushed by the state, a consequence of the colonial legacy in which African states were born fully formed, as it were, but without a strong civil society. This is particularly so given that for the greater part of Nigeria's post-independence history, it has been led by non-elected military regimes. As Jarmon (1988: 7) asserts, the

---

[22] Dearnley, James and John Feather, *The Wired World: An introduction to the theory and practice of the information society* (London, England: Library Association Publishing, 2001) p.83

[23] Of course, this point could equally be used to argue for the role of the private sector in the rapid development of Nigeria's telecommunications sector.

> prime mover behind the process of national development in Nigeria is the national government. For example, no other institution possesses a similar relation to power and the control of coercive force; no other controls the major source of economic production and resource allocation; no other determines national goals and the means of their implementation; and no other holds the diverse Nigerian population together. These roles have emerged with the state in Nigeria and continue to be of central significance.[24]

Western market economists might argue that it is precisely the intervention of the state that has led to Nigerian underdevelopment, but such arguments underrate the role of the state in the development (or industrialization) process in the West. It is not unusual therefore that in the age of ICTs as a paradigm of development, states will be at the forefront of efforts to harness this technology for economic development.

In conclusion, given the pervasive presence of the state in Nigeria (and many African countries), the capital-intensive nature of the ICT sector and the general poverty in mass society, the state will be and has been immensely involved in the acquisition and diffusion of these technologies. Such is also the case even in many post-industrial societies that are now ahead in the development and usage of ICTs. And it is even more so in underdeveloped countries where state policies are expected to create the environment and institutions enabling economic development. Also, in countries such as Nigeria where the federal government is only such in name, and the local governments are directly dependent on the central government for policy and leadership, the role of the state becomes even more important.

---

[24] Jarmon, Charles, *Nigeria: Reorganization and Development Since the Mid-Twentieth Century.* (Leiden, The Netherlands: E. J. Brill, 1988)

1:5:2 Research questions

Primary question: The debates on ICTs as tools for socio-economic development in developing countries raise a number of questions, some of which frame this dissertation. One of the questions, as addressed by this research is: How is Nigeria acquiring and utilizing ICTs as tools for socio-economic development? This in turn raises secondary questions regarding current policies on ICTs, their applications as strategies of development in the country and the societal response.

Secondary questions:

- What is Nigeria's policy on ICTs, and what factors drive this policy? Are policymakers' conceptions of ICTs integrated with the country's overall economic goals?
- What is the status – or level of penetration – of ICTs in Nigeria?
- How does government perceive its role in the acquisition and use of ICTs, and consequently their application as strategies for socio-economic development? Who are investing in ICTs? What is the role of the private sector?
- Can ICTs help Nigeria to transcend the conditions that have traditionally acted as impediments to previous development efforts?

1:5:3 Research objectives

The decision to research the connections between ICTs and socio-economic development was undertaken for three reasons. First, during the course-work portion of this PhD program, I did a bibliographic research on ICTs and socio-economic development for a term paper. It was a disappointment to find a lack of critical analyses of the processes through which ICTs can translate into socio-economic development. The literature was filled with mostly prescriptive analyses of how developing countries must join the ICT bandwagon or risk further marginalization from the global economic system, and thus accentuate their level of underdevelopment. The messianic message about ICTs for development that pervaded the literature at the time raised concerns that proclamations about the wonders of ICTs may induce among policymakers a technological determinism and the illusion that ICTs can, on their own, create socio-economic development. This already seems to be the case going by the public statements of policymakers in Nigeria. Government's stress on ICTs has raised expectations in the country about the capacities of these technologies in the development efforts. Given the hype that surrounds the subject in the Nigerian media and in statements by public officials, there is an assumption that these technologies are the panacea to the country's development problems.

This dissertation therefore contributes a critical perspective to the ICT-for-development discourse through an examination of the status of ICTs in Nigeria and the conditions under which they can be harnessed for socio-economic development. It is hoped that the results and analysis of the research findings will guide policymaking and action in

Nigeria as the government and people develop and diffuse ICTs for socio-economic goals.

Secondly, the research is also aimed at making a modest contribution to the body of knowledge in a field currently filled with optimism about the inherent capacities of ICTs in promoting the development efforts of poor countries. Current literature overwhelmingly stress the problem-solving capacities of these technologies without reference to existing structural and institutional framework that may significantly intervene the outcome of the diffusion of these technologies, especially in an infrastructurally underdeveloped country such as Nigeria. The acquisition and use of ICTs for development projects are still in infancy, and therefore one cannot at this time argue conclusively that the technologies can or cannot help a country to move from the status of underdevelopment to industrialization (or post-industrialization). But one can examine the existing conditions in a country and the ways in which they are likely to facilitate or constrain the capacity of ICTs as instruments of development. This would allow one to draw tentative conclusions, regarding the outcomes of the prevailing theoretical and policy assumptions about the technologies.

Thirdly, the research is aimed at contributing a political science perspective to the debates. Given the existing tradition of political science research into the problems of development – economic, political and social – there is need to integrate the two areas of research. This is especially important because of the multi-faceted impacts of ICT applications. The debates on ICTs also intersect with several core issues in political science, such as globalization, gender, development and democracy, in ways that scholars in the field can no longer ignore.

1:5:4 Theoretical framework

As a result of the paucity of specific theories on ICTs for development, I decided to construct an integrated framework from a melange of theories such as structuralism and critical theory. The purpose is to achieve a theory that is critical enough to explain the ways in which existing institutions and structures mediate the process of applying ICTs as tools for socio-economic growth in developing countries. As I show in the next chapter, many critical theories on ICTs or the information society offer explanations about the effects of these new technologies mainly on post-industrial countries; the less critical theories generally make prescriptive proclamations about the capacities of ICTs to promote economic growth in developing countries. An adequate understanding and explanation of the processes of ICTs in development requires an integration of critical (or information society) theories with development theory. This approach is further developed in the next chapter.

1:5:5 Research methodology

This dissertation is a single-case study adopting a multi-level, qualitative and quantitative approach. It spans the different levels of analysis – society, private sector (market) and state. While it is ostensibly a state-level work in the sense that it focuses more on the behaviour of the state, particularly as it responds to the technological changes occurring at the systemic level, it is also a work that considers the societal framework. One proceeds from the premise that it will take more than the action of the state for information and communication technologies to be successfully diffused and harnessed for development in any country. The success of the project will involve various state and societal actors, as well as system-level forces.

The case study approach, rooted in the work of Max Weber and German historiography, is historical, interpretive and holistic, and objects of study are taken as whole entities. It is concerned with the "intersection of a set of conditions in time and space that produces many of the qualitative changes" in a society. (Ragin, 1982: 25) This approach is useful for this research for a number of reasons. First, it is widely used in information technology research because of its focus on the institutional framework, policies and intentions of policymakers. And as Montealegre (1999) has argued, "given the widespread prescription of IT for Third World countries, the urgency of their needs, and the paucity of their economic resources, it seems useful to understand the state of IT absorption in different countries and the effect of different technology levels, cultures, and priorities on IT implementation."[25]

Secondly, the approach enables the identification of factors that are crucial to the successful implementation of policies on ICTs. These factors, already discussed earlier, include the state of the infrastructure in Nigeria and the institutional and cultural frameworks. In the research, one interrogates the connections between these forces (or variables) and ICT-related national policy goals. Thirdly, the approach, which is both descriptive and explanatory, enriches an understanding of the emergence of ICTs in Nigeria and the process toward the creation of a Nigerian Information Society, as declared in the speeches of policymakers. Again, as Montealegre notes, without proper description, it is impossible to make prescriptions about the inherent potential of ICTs to accelerate development in poor countries. And so far, much of the literature has been largely prescriptive, without an acknowledgment of the factors that may constitute significant variables in the capacity of developing countries to achieve the goals of their policies on ICTs. Ultimately, the success of the acquisition and diffusion of ICTs in these countries will be influenced by the social and institutional settings, and their capacities to overcome structural and institutional obstacles.

---

[25] Montealegre, Ramiro, "A Case for more case study research in the implementation of Information Technology in less-developed countries," in *Information Technology for Development,* 1999, Vol. 8, Issue 4, p199

Finally, the questions for this research require a case-study method in order to effectively and qualitatively examine and interpret the extent to which Nigeria's policies on ICTs are expected to promote the stated goals of harnessing the technologies for socio-economic development. It also enables a systematic and exhaustive examination of Nigeria's capacity to develop and harness ICTs for socio-economic development given the infrastructural, institutional and cultural factors that will be significant in the process of acquiring and diffusing the technologies in the country.

The general framework of the research and analysis is qualitative, critical and feminist. While there is no *feminist method* in the social sciences, feminist scholars such as Harding (1987) have sketched an outline of research that integrates the experiences of women as resources for knowledge. The objective and results of such research must be *for* women, she argues. Also, feminist methods reject the separation of researcher and object of research (as occurs in traditional research methods, especially quantitative methods). It allows for a positioning of the inquirer on the same "critical plane" as the subject matter. This is grounded in the feminist notion that "the beliefs and behaviour of the researcher are part of the empirical evidence for (or against) the claims advanced in the results of research." (Harding, 1987: 9)

> Feminist researchers ... listen carefully to how women informants think about their lives, and critically to how traditional social scientists conceptualize women's and men's lives. They observe behaviour of women and men that traditional social scientists have not thought significant. (Ibid., p.2)

1:5:6 Research techniques

The research involved several techniques. One of these was the questionnaire, administered to 306 participants. It was a major part of the research, not for its results, but because it was the most structured, detailed and time consuming of the research techniques. I also used personal interviews – interviewing key individuals in the ICT industry both in the public and private sectors. As well, I attended ICT-related conferences and workshops. Participant-observation and anecdotal evidence about ICT usage and diffusion in the country were also some of the means of data collection during the research. Finally, the research techniques included a content analysis of ICT coverage in two national newspapers, and the two policy documents on ICT. Justification of and the actual design of the research techniques follow below but details of some of the elements of the research are attached as appendices.

The Questionnaire: Only one structured questionnaire (Appendix A) was administered during the research. Its major purpose was to assess the level of awareness of and response of a section of the civil society to ICT issues. The questionnaire built on the work of Ehikhamenor (1998) who did a similar study of 116 graduate students newly admitted into "information-related" programs in Nigerian universities to "(test) for their familiarity with and understanding of concepts and terminologies in information and communication technology."[26] The questions were deliberately constructed to achieve the objective of the survey. The questionnaire consisted of three sections, starting with questions relating to respondents' knowledge and usage of ICTs in the 12 months and one month prior to their participation in the survey. There was a matrix section aimed at getting information about respondents' expectations of ICTs, and their understanding of the connections between ICTs and socio-economic growth. An open-ended section was also included and respondents were asked questions regarding the roles of the private and public sectors in the development and diffusion of ICTs, as well as what they perceived were or would be the constraints in the achievement of policymakers' goals of making Nigeria an IT-capable country and globally competitive by 2005. A demographic section completed the 16-page questionnaire, which administration lasted between 20 minutes and one hour, depending on the respondent.

---

[26] Ehikhamenor, Fabian A, "Cognitive information foundation of university students: Index of information and communication technology in Nigeria" in *Information Technology for Development*, 1998/1999, Vol. 8 Issue 3, p139

The questionnaire was individually administered. The face-to-face method of questionnaire administration involves the researcher reading the questions to each respondent and recording the answers. It is an expensive method of administration in terms of energy, time and cost. This segment of the research was the most-time consuming especially because of the insistence on interviewing only the 306 respondents randomly selected prior to the beginning of the questionnaire administration. There was no guarantee that the "qualified" participants would be available and in many cases, one had to return to the interview city several times in order to meet with a particular respondent. However, the advantages of this method of questionnaire administration are many and include a high completion and response rate, as well as a high degree of accuracy as the researcher can read the questions clearly in the way she or he intended and accurately record the responses. This method also has other advantages. For instance,

> if necessary, interviews can be carried out in different languages … Interviews can be carried out with illiterate persons or persons who feel uneasy in writing down their answers, especially to open-ended questions. Interviewers can also take account of difficulties that were not foreseen, and gain insights that may help in interpreting the data.[27]

For this research, observing the process through which participants (especially the females) arrived at their responses gave invaluable insights into their understanding of ICT issues in ways that a mere completion of the questionnaire would have belied. For instance, respondents had problems understanding the different technologies and their relationships with each other. And this insight considerably enriches the analysis, particularly as presented in Chapter 6.

---

[27] Del Balso, Michael and Alan D. Lewis, *A Guide to Social Research*. (Scarborough, Ontario: ITP Nelson, 1997), p.157

Respondents were randomly selected (using the stratified random sampling method) from lists of members of the National Youth Service Corps (NYSC) in each of the interview cities. While the method of random selection was uniform, in each of the three cities of research (See Appendix B) I had to vary slightly because of the numbers. For instance, in Port Harcourt, I picked every fifth name on the list, each for male and female, while in Lagos – with a higher number of youth corps members – I picked every tenth name. In Abuja, I picked every fourth name on the list. Occasionally it would turn out that a selected name had been re-deployed outside the city; in which case I would choose the next name of the same gender, and the fifth (or tenth or fourth) name after that.[28] I had intended to interview 100 respondents (50 male and 50 female) in each of the cities. I ended up with 99 in Port Harcourt (49 female and 50 male), 107 in Lagos (53 female, 53 male, and one incomplete), and 101 in Abuja (47 female and 54 male). The female participants accounted for more refusals, incompletes and non-availability than the male, hence the higher number (by seven) of male respondents in the questionnaire portion of the research.

---

[28] The master list was generated by NYSC registration numbers and therefore state of origin was random by default. The list also indicated gender so it was easy to achieve my gender balance before resumption of administration of the questionnaire.

Personal Interviews: I also conducted one-on-one interviews with key personnel (See Appendix C) in the public and private sector, especially to answer the secondary research questions about the role of the different sectors in developing and diffusing ICTs for socio-economic growth in the country. Questions were asked about the level of ICT usage in the different sectors, and the connections between ICT usage in Nigeria and socio-economic growth, as well as the links between government national goals and its strategies for harnessing ICTs for development. One also sought to know the capacity of the private sector to indigenously develop ICTs in the country. This was based on the fact that in the developed countries, while the state sets the policies, developments in ICTs have been spearheaded by the private sector, with higher spending on research and development.[29] Different sets of questions were asked the different people depending on their role/mandate in the ICT industry. For instance, the questions to officials in the Ministry of Education centred mostly on computer literacy in secondary schools while questions to those in the Federal Ministry of Information and National Orientation focused on public awareness about ICTs. In the Ministry of Communication, I dealt with more technical issues such as Nigeria's capacity for global competitiveness in the ICT sector given the level of telecommunication infrastructure in the country.

Content Analysis: Two major policy documents have set the tone for Nigeria's journey toward the global information society. The documents, as they stand, clearly spell out their objectives and strategies for achieving them. It was necessary to qualitatively analyze these documents to see how the objectives and strategies fit into the current realities of the Nigerian ICT landscape and thus make tentative predictions about the future. Also, the policies are clearly market-driven (or in the words of the policy on information technology, "private-sector driven") but there are assumptions in the media about popular participation and human capacity building through these technologies. It was useful to see how these themes resonated in the policy documents.

---

[29] In the West, the private sector leads in the creation of technology, according to the UNDP 2001 Human Development Report, p.37

Also, measuring (qualitatively) the awareness of the civil society of ICT matters required a content analysis of some newspapers – news, features and letters to the editor that relate to ICTs in the country. Since it was impossible to analyze all the newspapers, two, with a fairly high level of ICT coverage were selected. These are the Lagos-based, but nationally circulated *The Guardian* and *This Day*. At *The Guardian*, everything relating to ICTs (as operationalized in my research) is covered in a weekly section called "Compulife." *This Day* has different sections for telecommunications and information technology, with the inevitable overlaps. The common themes and issues raised in the media coverage of ICTs are integrated in the analysis especially in the empirical chapters (Chapters 5-8).

Other sources of data – conferences, observations and anecdotes: During the field research, I attended conferences and seminars where major actors in Nigeria's IT industry presented papers. Many of these papers (with verifiable information) form the chunk of my database. Also, my need to communicate with the "outside world" took me to places where research data were obtained through the method of participant-observation. I spent a lot of time in cyber cafés in the three cities of research, as well as in other Nigerian cities. I observed the various ways that Nigerians (especially the younger generation) are dealing with the challenges and opportunities offered by the new ICTs. Also through conversations with the staff or owners of cyber cafés, I obtained a lot of information crucial to an understanding of the diffusion and use of ICTs in Nigeria. Finally, through usage of some of the technologies, such as a cellular phone, while in Nigeria, I also accumulated enough first-hand experiences to guide (but not influence) the analysis of the research.

1:6 Organization and structure

This dissertation is organized in nine chapters, including this introductory chapter. In Chapter 2, I present the theoretical framework, starting with the classical theories of development communications, development and ICTs and theories of the information society. The chapter examines the ways in which classical theories structure the current debates on the role of ICTs in development. There is also a discussion of the weaknesses in current approaches to the understanding of ICTs and development and a suggestion for a more critical theoretical perspective aimed at a better understanding of the processes by which ICTs can or cannot lead to socio-economic growth in developing countries.

Chapter 3 contextualizes the discussion on ICTs and development by examining the history and earlier strategies of socio-economic development in Nigeria. The objective is to show the role that the Nigerian state has played in past development efforts to foreshadow its actions in the context of ICTs and development, as discussed in Chapter 4. The chapter thus lays the foundation for the present focus on ICTs as tools for socio-economic development. It is logically followed by Chapter 4 which focuses on the role of the Nigerian state in the development of ICTs in the country. The discussion begins at the policy formulation and implementation stages, and includes overview of some of the concrete programs and projects that relevant agencies had initiated as at the end of 2001. The contributions of the private sector are also discussed in this chapter.

Chapter 5 is an analysis of the usage and diffusion of ICTs in the public sector based on interviews with 14 public officials and observations of ICT usage in some federal government ministries in Abuja, the federal capital territory, between July and December 2001. Chapter 6 continues with the empirical analysis started in the previous chapter by examining the societal context of development and patterns of ICT usage in the country. It is based on responses to a 16-page questionnaire individually administered to 306 recent college graduates aged 18 to 30. In Chapter 7, I present the ways in which various Nigerians involved in the ICT sector are making the connections between the acquisition of the technologies and socio-economic development in the country. The connections often sound like fairy tales and in recognition of the tradition of story telling, interviewees' responses are not mediated but rendered in their own voices. In Chapter 8, I examine some of the infrastructural constraints and obstacles that lie on the path of Nigeria's journey toward the information society, as well as some of the ways that the government and people are dealing with these challenges. The discussion is based on responses of interviewees, questionnaire respondents and observations. In Chapter 9, the concluding chapter, I summarize the highlights of the previous chapters and examine the journey so far in Nigeria's quest to arrive at the global information society, be part of the global network society and globally competitive by 2005. I conclude this last chapter with a discussion of the prospects for the future in Nigeria's ICT development, implications of the research for development studies and the issues that call for future research.

References

Akpan, Patience Idaraesit, "Newspapers through the window: Creation of the online newspaper," an unpublished Master's Research Project, Carleton University, 1996.

— "Africa in the age of a global network society: The challenges ahead," *African Studies Quarterly,* Volume 4, Issue 2, Summer 2000.

Amin, Samir, "The Ancient world-systems Versus the Modern Capitalist World-System" in André Gunder Frank and Gills, Barry K., eds. *The World System: Five Hundred Years or Five Thousand?* (London; New York: Routledge, 1993)

Avgerou, Chrisanthi "How Can IT Enable Economic Growth in Developing Countries?" *Information Technology for Development*, 15-28, 1998

Castells, Manuel (ed.), *High Technology, Space, and Society* (Beverly Hills, California: Sage Publications, Inc., 1985)

— *The Rise of the Network Society.* (Cambridge, Massachusetts: Blackwell Publishers, Inc., 1996)

— and Peter Hall, *Technopoles of the World: The Making of 21st Century Industrial Complexes.* (London and New York: Routledge, 1994)

Chirot, Daniel, *How Societies Change.* (Thousand Oaks, California: Pine Forge Press, 1994)

Credé Andreas and Robin Mansell, *Knowledge Societies ... in a Nutshell: Information Technology for Sustainable Development.* (Ottawa, Ontario: IDRC, 1998)

Currie, Wendy, *The Global Information Society.* (West Sussex, England: John Wiley & Sons, Ltd. 2000)

Dearnley, James and John Feather, *The Wired World: An introduction to the theory and practice of the information society* (London, England: Library Association Publishing, 2001

Del Balso, Michael and Alan D. Lewis, *First Steps: A Guide to Social Research.* (Scarborough, Ontario: ITP Nelson, 1997)

Dordick, Herbert S. and Georgette Wang, *The Information Society: A Retrospective View* (Newbury Park, London: Sage Publications, 1993)

Dos Santos, Theotonio, "The Structure of Dependence" in Mitchell A. Seligson and John T. Passé-Smith (eds.), *Development and Underdevelopment: The Political Economy of Global Inequality.* (Boulder, Colorado: Lynne Reiner, 1998)

Ehikhamenor, Fabian A, "Cognitive information foundation of university students: Index of information and communication technology in Nigeria" in *Information Technology for Development*, 1998/1999, Vol. 8 Issue 3

Ellul, Jacques, *The Technological Society*. (New York: Vintage Books. 1967)

Evans, Peter, *Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil.* Princeton, New Jersey: Princeton University Press, 1979)

Fleming, John, "Poor nations leapfrog to future via new technologies." *Christian Science Monitor*, May 22, 1996, Vol. 88 Issue 124

Frank, André Gunder, *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil* (New York: Monthly Review Press, 1967)

– and Gills, Barry K., eds. *The World System: Five Hundred Years or Five Thousand?* (London; New York: Routledge, 1993)

Giddens, Anthony, *The Consequences of Modernity.* (Cambridge: Polity, 1990)

– *Runaway World: How Globalization is Reshaping Our lives.* (New York, New York: Routledge, 2000)

Hamelink, Cees J., *New Information and Communication Technologies, Social Development and Cultural Change,* United Nations Research Institute for Social Development Discussion Paper No.86, 1997

Harbermas, Jürgens, *The Structural Transformation of the Public Sphere: An Enquiry into a Category of Bourgeois Society.* (1962) Translated by Thomas Burger with the assistance of Frederick Lawrence. (Cambridge: Polity, 1989)

Harding, Sandra, *Feminism and Methodology.* (Bloomington, Indiana: Milton Keynes; Indiana University Press, 1987 —eBook ISBN 0585001235)

Harvey, David, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change.* (Oxford: Blackwell, 1989)

Heeks, Richard, *Information and Communication Technologies, Poverty and Development,* Development Informatics, Working Paper Series, No. 5

Howkins, John and Robert Valantin (eds.), *Development and the Information Age: Four Global Scenarios for the Future of Information and Communication Technology.* (Ottawa, Canada: IDRC/UNCSTD, 1997)

Jarmon, Charles, Nigeria: Reorganization and Development Since the Mid-Twentieth Century. (Leiden, The Netherlands: E. J. Brill, 1988)

Jensen, Mike, "African Internet Connectivity," available at http://www3.sn.apc.org

Jipguep, Jean, "The Role of Telecommunication in the Economic Integration of Africa." Available at: http://www.sas.upenn/edu/African_Studies/Comp/_Articles/Role_14803.html Accessed, Feb. 10, 2000.

Kalu, Kelechi A., "Perspectives on Technology and Economic Development in Nigeria," in *Journal of Third World Studies*, Vol. XVII, No. 1, 2000.

Keohane, Robert O. and Joseph S. Nye, *Power and Interdependence: World Politics in Transition.* (Boston: Little, Brown, 1977)

Light, Jennifer S., "The Digital Landscape: New Space for Women?" in *Gender Place & Culture: A Journal of Feminist Geography*, Sept.95, Vol 2 Issue 2

Mackay, Hugh, "The Globalization of Culture?" in Held, David, ed., *A Globalizing World? Culture, Economics* (New York, New York: Routledge, 2000)

Makinde, Akin M., "Technology Transfer: An African Dilemma" in Murphy, John W., Algis Mickunas and Joseph J. Pilotta (eds.), *The Underside of High-Tech: Technology and the Deformation of Human Sensibilities.* (New York: Greenwood Press, 1986)

Martin, Michèle, with contributions by Graham Knight, *Communication and Mass Media: Culture, Domination and Opposition.* (Scarborough, Ontario: Prentice Hall Allyn and Bacon Canada)

Martinussen, John, *Society, State and Market: A Guide to Competing Theories of Development.* (Atlantic Highlands, New Jersey: Zed Books, 1997)

McLuhan, Marshall, *Understanding Media: The Extensions of Man.* (New York: McGraw-Hill, 1964)

Miles, Ian, "The Information Society: Competing Perspectives on the Social and Economic Implications of Information and Communication Technologies," in Dutton, William (ed.) with the assistance of Malcolm Peltu, *Information and Communication Technologies: Visions and Realities.* (Oxford University Press, 1996)

Montealegre, Ramiro, “A case for more case study research in the implementation of Information Technology in less-developed countries,” in *Information Technology for Development,* 1999, Vol. 8, Issue 4

Morales-Gomez, Daniel and Martha Melesse, "Utilizing information and communication technologies for development: The social dimensions," in *Information Technology for Development,* 1998, Vol. 8 Issue 1

Mosco, Vincent, *The Political Economy of Communication: Rethinking and Renewal.* (London, Thousand Oaks: Sage, 1996)

Mowlana, Hamid, *Global Information and World Communication,* Second edition. (Sage Publications, 1997)

Poster, Mark, “National Identities and Communication Technologies,” *The Information Society*, 15

Ragin, Charles, *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies.* (Berkeley, California: University of California Press, 1987)

Rajaee, Farhang, *Globalization on Trial: The Human Condition and the Information Civilization* (Ottawa, Ontario: IDRC, 2000)

Schiller, Herbert I., *Information and the Crisis Economy.* (New York: Oxford University Press, 1986)

— “New Information Technologies and Old Objectives,” *Science and Public Policy,* December, 1984: 382-383

So, Alvin Y., *Social Change and Development: Modernization, Dependency, and World-Systems Theories.* (Newbury Park, California: Sage Publications, 1990)

UNESCO research paper no. 9., 1955

United Nations Development Program, *1999 Human Development Report.* (UNDP, 1999)

United Nations Development Program, *2001 Human Development Report.* (UNDP, 2001)

Wallerstein, Immanuel, *The Modern World-System.* (New York: Academic Press, 1974)

-- and Terence K. Hopkins, with Robert L. Bach, et al, *World-Systems Analysis: Theory and Methodology.* (Beverly Hills, California: Sage Publications, 1982)

-- and Terence K. Hopkins, eds., *Processes of the world-system*. (Beverly Hills, California: Sage Publications, 1980)

Weatherby, Joseph, *et al.*, *The Other World: Issues and Politics of the Developing World.* (Addison Wesley Longman, 2000, 4th edition)

Webster, Frank, *Theories of the Information Society.* (London: Routledge, 1995)

References on the WWW

http://www3.sn.apc.org/africa/ – Updates on African Internet connectivity

http://www.nua.ie/surveys/how_many_online/index.html – An Internet survey site

http://www.nsrc.org/AFRICA/papers.html "Papers about networking in Africa."

http://www.nsrc.org/AFRICA/regional-reports/links "User's guide to electronic networks in Africa"

http://www.avalon.net/~laurafo/42.html Articles on "Emerging Information Technologies and the Global South"

http://www.nepad.org For information about NEPAD and its mission

Chapter 2

Theories of development, information and communication technologies and the information society

2:1 Introduction

This dissertation is a case study of the development and diffusion of information and communication technologies (ICTs) in one country – Nigeria. It seeks to understand the process of acquisition and the relationship between ICTs and socio-economic development. To achieve the objectives of the dissertation, there is need for a theoretical framework that can offer adequate explanation and understanding of the acquisition of ICTs and the expected outcomes in a developing country. There are many theories in the field that attempt to do this. The problem however is that most of these come under the rubric of development theory or information society theory, with each framework applied to either a developing country setting or the industrialized world. There are not many efforts at integrating the two sets of theories in a way that would yield a systematic theoretical framework for studying the implications of ICTs for development.

This chapter sets out to achieve two things. First, it provides an overview of the various theories – from development theory to information society theory – that are relevant to the dissertation topic. It is necessary to do this because one cannot discuss the role of ICTs in development if one does not understand what development is or earlier paradigms and strategies that had been adopted in the development project. From a discussion of development theory, the chapter moves on to an overview of information society theories which have been used to explain the implications of ICTs for industrialized countries. While there are no specific theories of ICTs and development, as the chapter will show, many of the current assumptions about the connections between ICT acquisition and socio-economic growth are structured by various strands of development theory especially classical theories of modernization. Scholars have usually used one or the other of the body of theories to explain the relationship between ICTs and development though most times atheoretical and ideological assumptions about the benefits of ICTs for developing countries have been passed on as facts. One argues that given the attention on ICTs-for-development in recent years, there is need for a theory that directly addresses the process whereby ICTs might be harnessed for socio-economic growth in developing countries. Accordingly, this chapter concludes with an attempt to construct an alternative framework of critical theory that adopts the best features of the different theories discussed in the following pages as the theoretical framework for this dissertation. A modified critical theory, as will be shown later in this chapter, has the elements useful for an explanation and understanding of the process through which ICTs can result in socio-economic growth in developing countries.

2:2Theories of development

There are different ways of defining development theory but it is primarily the body of theories that focus on issues of development in countries in the periphery. It "seeks to account for the uneven pattern of development worldwide and to recommend measures to overcome underdevelopment."[1] Martinussen (1997) also defines development theory as one which offers "explanations for the different kinds of patterns of development and underdevelopment which have occurred in the Third World." (p.8) To be considered a theory of development, a theory must provide concrete insights into a developing country's actual problems and prospects for change. Earlier theories of development were usually economistic, focusing on macro-economic indicators of growth. However a purely economic analysis of capitalism, for instance, would not pass for a development theory unless it also offers explanations for "development, maldevelopment or underdevelopment and stagnation" in Third World countries. (Martinussen, 1997: p.13) Martinussen further suggests what may very well be the test of a development theory.

---

[1] Munck, Ronaldo and Denis O'Hearn, eds., *Critical Development Theory: Contributions to a New Paradigm* (London and New York: Zed Books, 1999), p.xiii

> A development theory seeks to answer questions such as the following: How can chosen and specified development objectives be promoted? What conditions will possibly obstruct, delay or detract progress towards the objectives? What causal relationships and laws of motion apply to the societal change process? What actors play dominant roles, and what interests do they have? How do the changes affect various social groups and various geographical regions? (p.14)

Matinussen's definition, which presupposes that a development theory must be one that applies only to Third World or developing countries, forecloses any attempt to apply information society theories, primarily directed at explaining the impacts of ICTs on post-industrial societies of the West, to developing countries. It might be suggested that understanding a *global* information society is necessarily a geographically boundless project because, in the expanding global network society, countries are willingly or reluctantly connected at different levels through the new technologies of information and communication. The disciplinary and geographic walls among theories are likely to come down for a fuller understanding of the implications of these technologies for the different peoples and countries of the world. The problem however is that the different regions of the world are confronted with vastly different development issues, and thus their applications of ICTs (and the consequent impacts) are equally different. Still, it is possible to have a single theory that is valid both for developing- and developed-country contexts, as will be shown in the last section of this chapter.

The geographical wall between the information society and development theories can be traced to early development theory, launched in the 1950s and 1960s, and inspired by the decolonization of the South. Proponents of development theory undertook to explain the differences between the economic and political situations of the "undeveloped" Third World/South and those of the "developed" nations of the North.

> The United States was at the height of its power and influence and regarded itself as both the inspiration and the policeman of the world. Anthropologists, sociologists, psychologists and economists all contributed to the modernization project with unquestioning optimism. Progress in its new clothes was not only inevitable, it was obligatory. ... Modernizing elites and comprador development theorists in 'developing' countries eagerly enrolled in the project.[2]

And, according to Dordick and Wang (1993:16) "... Massive postwar assistance by the United States, in particular, called for some guidance to ensure that the money would be well spent." There therefore emerged four major approaches to the examination of the problems and conditions for development in the new states. These included:

> A theory that drew upon historical experience to formulate a linear process of growth (stage theory); one that placed structural reform at the top of the list for success; another that recognized that while old-style empire colonialism was

---

[2] Tucker, Vincent, "The Myth of Development: A Critique of a Eurocentric Discourse," in Ronaldo Munck and Denis O'Hearn, eds., *Critical Development Theory: Contributions to a New Paradigm* (London and New York: Zed Books, 1999), p.7

> dead, a new form of colonialism fostered by capitalism had taken its place and had to be dealt with to promote development among the less fortunate nations; and more recently, a theory that argues that a return to traditional market economics will solve the development problems of the developing nations. (Ibid.)

The first two theories fall under the rubric of modernization theories of economic growth, while the third is Marxist-based dependency analysis of underdevelopment. The last approach is what has often been referred to as neo-liberal economic theory, especially as interpreted for developing countries by the Bretton Woods institutions, particularly the International Monetary Fund (IMF).

While contemporary theories of development do not make clear distinctions between economic and political development, modernization theorists generally attempted to differentiate between the two, stressing either the development of a capitalist economy or a democratic polity.[3] According to this approach, development was indicated by factors such as urbanization, political institutions, technological development and economic infrastructures and it therefore did not matter which goal a country pursued as the outcome was the same – economic and political development. Almond and Verba (1965), for instance, concentrated on the political culture of development as expressed through the establishment of political institutions, citizen mobilization and participation balanced by state order and authority. Their focus remained on the nation-state and on the assumptions that political beliefs are relevant to the problem of political development. While the expected outcome was the same, other scholars emphasised the development of economic policies, infrastructure and per capita incomes as measures of success. Indeed Walter Rostow (1961), the key proponent of the stage theory in his work, *Stages of Economic Growth: A Non-Communist Manifesto*, outlined the stages of modernization through which, he argued, each society or "developing nations" must pass: it was the same path that led to development in the industrialized countries. He presented modernization as an inevitable trajectory for all societies which must move from the traditional stage, through the preconditions for take-off and drive to maturity to the age of high mass consumption. In essence, Rostow and other development theorists believed that the new states would evolve from a stage of underdevelopment to one of capitalist democracy. In this conceptualization, development was understood as the "maximizing of goods and services available" and therefore a developing country could be distinguished from a developed one "by the paucity of these goods and services." (Dordick and Wang, 1993:22)

---

[3] In neo-liberal economic logic, there is seemingly no separation between economic and political reforms and this probably explains why the IMF, in handing out its structural adjustment packages to countries in economic crisis, stresses democratization as a precondition for economic development.

Implicit in most theories of modernization was the belief in the superiority of American or Western values, institutions, and processes. Hence, the development agenda was highly criticized for its ethnocentrism. (See, for instance, Mehmet, 1999) Indeed modernization theory focussed on progress as leading inevitably to development as defined by the Western experience. Thus the instilling of certain Western political values was deemed critical to, and intertwined with, economic development. According to these early theorists, factors for underdevelopment included traditionalism, lack of achievement motivation, regime type and culture. For states to become modern and developed, they had to adopt Western ways and attitudes. Policy prescriptions were given accordingly and policymakers in many countries initiated projects aimed at replacing traditional values and attitudes with modern (Western) concepts. Accordingly, different development strategies, beginning with export-oriented strategy, import substitution industrialization, basic-needs strategies and structural adjustment programs, have been adopted at different times in developing countries, in response to the different theories of development. The most recent of development strategies is the current focus on the prospects of ICTs as tools for economic development in poor countries, as will be shown later in this chapter.

Classical modernization theory (and to some extent, the "new" school) clearly focused on internal factors to explain underdevelopment in the then newly independent countries, and thus the prescriptions for growth were on internal (or structural) changes. However, in focusing on internal constraints to development, modernization theorists overlooked the structure of the international political economy and the ways in which it adversely affected the development efforts of countries in the South. And it was to correct this "oversight" that dependency theory emerged in the late 1960s and 1970s, and redirected attention to external factors of underdevelopment. Dependency theorists such as André Gunder Frank (1967) and Dos Santos (1970) argued that underdevelopment is created by the unequal relationship of exchange and dependence that exists between core countries and those in the periphery. According to them, dependency is a product of an active process of unequal economic power relationship between two countries or groups of countries, and it comes in three forms: colonial, financial and technological-industrial. Underdevelopment, from the perspective of dependency, can be summarized as follows: The very process that leads to economic growth and development in rich countries results in underdevelopment in poor, mostly formerly colonized countries through negative terms of trade, the debt trap and technological-industrial dependency.

By the 1980s, dependency theory was itself virtually dead (Chilcote, 1994). But some of its assumptions re-surfaced in Castells's analysis of the factors that continue to hinder development in South countries particularly, sub-Saharan Africa. (Castells, 1996: 83-95) According to him, the causes of the region's marginalization and poverty are attributable to a number of things. First, over-reliance on the export of primary commodities (92% of all exports), 76% of which are agricultural products; and depression of their prices and negative terms of trade which, "as a result of the structure of exports, make it extremely difficult for Africa to grow on the basis of outward orientation of its economies." (p.83) Secondly, adjustment policies which stress export-oriented strategy of growth have increased reliance on primary commodity exports, thus exacerbating the region's underdevelopment. Thirdly, the collapse of Africa's industrialization efforts which went into crisis at exactly the time when technological renewal and export-oriented industrialization characterized most of the world, including other developing countries. Fourthly, foreign debt, leading to structural adjustment programs, created more poverty for the majority of the people in the region. (This point has also been made by Haggard and Kaufman, 1992). Fifthly, the disconnection of Africa from the global network society has further marginalized the continent – as least south of the Sahara. Castells adds:

> Technological dependency and technological underdevelopment in a period of accelerated technology change in the rest of the world, make it literally impossible for Africa to compete internationally either in manufacturing or in advanced services ... The disinformation of Africa at the dawn of the Information Age may be the most lasting wound inflicted on this continent by new patterns of dependency, aggravated by policies of predatory state. (1996:95)

Finally, Africa is being bypassed by foreign direct investment because of "unreliable institutional environment; lack of production and communications infrastructure, as well as the human capital; and erroneous economic policies which penalize exports and investment for the sake of local businesses favoured by their association with state bureaucracy." (p.90) On the poor communications infrastructure, Castells notes that "In the 1980s, half of the computers introduced in Africa were aid-donated, most of them technologically obsolete so that experts consider that Africa has become the dumping ground for a massive equipment made obsolete by fast-moving technological innovation." (p.95)

Theories, policy prescriptions and initiatives based on classical understanding of development have since moved in different directions. Rather than top-down economistic policies, other programs promoting decentralized patterns of development have become prominent, and emphasis has at various times been shifted to projects which directly target the poor, especially in rural areas. "The effect was to redefine the aims of development toward fostering fairer distributions of income and resources, encouraging local participation, and promoting small-scale projects employing socially and environmentally appropriate technologies. (Brohman, 1996: 203-204)[4] One such perspective focused on basic-needs strategy as a more useful approach to achieving the kind of economic growth that benefits the majority of people in developing countries. This approach contrasts with earlier top-down development models still prevalent in the development discourse. In the top-down model, "The process of economic growth is characteristically thought to follow a series of 'stages' which would ultimately spread benefits to all, thereby alleviating poverty and inequality." (Brohman, 1996: 201)

The basic-needs approach targeted equitable distribution of resources, poverty alleviation and the satisfaction of basic needs through the adoption of appropriate technologies, rather than rapid modernization. (Brohman, 1996, Dordick and Wang, 1993) It particularly aimed at de-linking development from economic growth as there were indications that macro-economic growth did not always trickle down to the majority of the populations. It became part of the international development agenda in 1976 when the ILO adopted the Declaration of Principles and Program of Action for a Basic Needs Strategy of Development. The ILO defined basic needs to include: minimum requirements of private consumption (e.g. food, shelter, clothing); essential services of collective consumption (e.g. electricity, water, sanitation, health care, education, public transport); and participation of people in decisions affecting their lives. (Brohman, 1996: 205) The ILO focused on "harnessing local resources and providing the poor with the means to fulfil their development potential. ... It also acknowledged the need for structural (internal) change in the development patterns of Third World societies to meet the basic needs of the poor." (Ibid.) While the basic-needs approach to development was well received by the international community of development scholars and practitioners, before it could bear any fruits, it was quickly replaced by the structural adjustment programs that came on the heels of the debt crisis that plagued many developing countries in the 1980s.

---

[4] This thinking, incidentally, now dominates the current discourse on ICTs and development.

Prior to the structural adjustment program taking the center stage of development policies in countries in the periphery, Africa had actually started to implement a basic-needs strategy of development that put the needs of its peoples on the top agenda of development. In 1980, 50 African heads of state met in Lagos under the auspices of the Organization for African Unity to discuss the way out of the continental affliction called poverty. At the end of the conference, the heads of state signed the Lagos Plan of Action (LPA), which aimed basically at de-linking from the world economy to focus on internally driven strategies for development and collective self reliance. The plan called on the continent to:

> use its extensive resource base primarily for its own development rather than for export, to expand its industry primarily for home consumption and only secondarily for export, to rely principally on its own technical skills and not on those of foreigners, and to develop an industrial base and consumption patterns suitable to African needs and customs rather than blindly adopt models from abroad.[5]

---

[5] Browne, Robert S., "Africa's Economic Future: Development or Disintegration?" in *World Policy Journal,* Volume 1, No. 4, Summer 1984, p. 803

It is not clear if the LPA was motivated by an overt understanding of dependency's assumptions, namely that reliance on export of primary products impoverishes peripheral countries. But this is clearly what the contents of the LPA implied. Within the first two years of the Lagos summit, steps were taken toward a self-sustaining African economy in which activities would be geared toward meeting the needs of Africans. These initial efforts included the mandate for the African Development Bank (ADB) to provide funding for cooperative and regional endeavours in line with the LPA. Existing regional organizations such as the Economic Community of West African States (ECOWAS) were strengthened and new ones created to foster an intra-African and inter-regional trade. Preferential trade areas were set up and trade barriers were eliminated to ease trade between African countries. Browne (1984) notes that though the LPA aimed at reducing Africa's dependence on other countries – "delinkage if you will – it certainly (did not) call for autarky. It is not a demand for Africa's total economic isolation from the rest of the world. Rather, it is a call for the Africans to shift away from reliance on them and a greater reliance on themselves."(Ibid.)

The call was obviously not answered. African countries have, from all accounts, become poorer today than they were in 1980 – or in 1984 when Robert S. Browne wrote his article. The "failure" of the LPA may be used as an example of the non-viability of delinkage as proposed by dependency theorists such as Amin (before he himself later denounced the concept). But an analysis of the failure of the LPA (which goes beyond the scope of this chapter) would show a linkage between the period the plan was conceived and the debt crisis and the consequent involvement of the Bretton Woods institutions in African economies. Ghana began the implementation of the IMF-coordinated structural adjustment program (SAP) as early as 1983, at the time when the gains of the LPA might have started to show – if it had been implemented. Several African countries were soon to stand in line for the IMF loan and the accompanied external-oriented structural adjustment programs that swept across the continent in the 1980s.

The IMF conditionalities were antithetical to the objectives of the LPA with their focus on external-oriented development strategies such as exploitation and export of primary products (straight out of the books of the classical modernization school). The thrust of the structural adjustment programs in African countries was the need to make enough foreign earnings to pay off Western creditors. These countries therefore not only sank further into the debt trap, but continued their reliance on exports of primary products at prices set by Western buyers. In many cases, several countries were exporting the same agricultural commodities to a saturated overseas market. Income from these activities went into debt servicing and whatever was left over was applied to the purchase of capital and consumer goods at prices set by industrialized countries. The vicious circle of dependence thus continued, validating many of the assumptions of dependency theory.

Dependency theory being intrinsically in opposition to the Establishment – neo-liberal international financial institutions – soon faded and modernization theory bounced back in the 1980s and early 1990s in response to the perceived "miracle" of the Asian Tigers (which at the time indicated that South countries could be rich). The period also spawned scholars of diverse theoretical origins who formulated such notions as complex (or mutual) interdependence which implied that a dependent relationship can be a positive-sum equation (for instance, Keohane and Nye, 1977). In other words, dependent nations can benefit as well as the less-dependent countries. Tracing what has become known as reverse dependency, these scholars argued that industrialized nations are dependent on the dependent nations for raw materials, and for markets for their exports. But as some other scholars (such as Brohman, 1996; Martinussen, 1997) have shown, the industrialized countries are not impotently dependent on poor countries.

For one, while developed countries have many choices of countries to import from, at prices set by them, poor countries are completely dependent on a limited overseas market for their low-value primary goods. The degree of dependence is therefore not the same. Secondly, with their vast array of technologies, industrialized countries are constantly developing synthetic and alternative raw materials to replace those imported from the South. An example is the decreasing reliance on textiles because of the production of synthetic fabrics such as polyester to replace cotton and other natural fibres in the manufacturing of clothes.

2:3 Modernization theory of development communications

While the primary focus of modernization theory was on economic and political development, there were scholars who studied social relations through the relationship between information/communication and development. They emphasised the role of traditionalism in fostering resistance to progress and modern attitudes, and thus a major obstacle to the goal of maximizing goods and services. There was therefore the need to promote a change in values and attitudes. And the

> … quickest and most effective way of bringing about this change of consciousness was the application of "technology-based" communications, principally radio, and in time, television. Literacy is not required; images are created that promote "psychic mobility"; and messages concerning health, education, farming methods, and more are delivered. (Dordick and Wang, 1993: 22)

According to Lerner's exposure theory of communication (1958), exposure to modern values through the mass media transforms behaviour and attitudes and in the process creates a political and economic actor. This actor was expected to be the agent of economic growth because he/she would sow the "right seed, use credit efficiently, voice political views and demands through the appropriate channels, and organize the institutions needed to push traditional societies over the threshold of modernity and into the twentieth century." (Quoted in Mowlana, 1997:188) The actor's modern attitudes and influence would, again through the media, diffuse to the rest of the traditional society and its people would adopt modern attitudes about savings that would in turn usher in economic development. Therefore, "classical and neoclassical economic thinkers saw communication as a necessary factor for economic development and growth." (Ibid., p.189)

As Lerner (1958) further argued, there is a causality between communication and urbanization and education which together lead to development. Pye (1963) added that communication was a prerequisite for development because of its power to destroy traditional societies. Inkeles and Smith in their famous work, *Becoming Modern* (1963), enthused about the role of the mass media in effecting modernization. The media, they argued, were the inculcators of individual modernization.

This was the beginning of development communications, defined as "the intersection of the communications and the economic and social sciences,"[6] and its development as a strategy of economic growth for Third World countries. Dordick and Wang (1993) speculate that development communications might have arisen as a result of the failure of the purely economistic stage theories of the 1950s. Scholars therefore turned to

> the miracle of electronic communications as a means for stimulating growth in the lesser developed countries. And indeed communications technology appeared to have promise. The transistor emerged from the laboratory and rapidly appeared in the far-flung corners of the world as the transistor radio … Television was rapidly becoming a household appliance in the developed nations, and almost every developing country was debating not whether but how they should introduce television with its power to inform, persuade, and educate, and thereby facilitate development. (p.20)

These arguments were premised on the assumption that there was a correlation between underdevelopment and the lack of information, especially as disseminated through technologies of the mass media. This meant that one could tell the difference between a developed country and an underdeveloped one by simply looking at the number of western-type ICT gadgets that each country had as this was an indicator of how informed the people were. This was the basis of Stover's argument as he concluded that that "poor countries have fewer means of communication than rich ones, and the lack of information correlates with a low level of development." (1984: 8) He did not critically analyze his data to show the causality between the level of development and the presence of mass media gadgets. For instance, did these countries have these high levels of "means of communication" because they were rich and could afford them or, did the acquisition of these "means of communication" enrich them? As the discussion on the productivity paradox[7] indicates, even in industrialized countries, there is yet evidence that investment in ICTs directly results in increased economic productivity. According to Avgerou (1998), even though "more recent studies indicate positive productivity findings" there is still no evidence of causality between investments in IT and economic growth.

---

[6] Dordick, Herbert S. and Georgette Wang, *The Information Society: A Retrospective View,* (Newbury Park, California: Sage Publications, 1993), p.21

Modernization theory and the ICT-for-development discourse: Classical modernization theory has since evolved to adapt to the new challenges faced by developing countries (So, 1990). However, its assumptions overtly or implicitly structure much of the current debates linking ICTs with development. This is despite the fact that the theory of development communications, just as many classical modernization theories, has since proved unable to explain the problem of underdevelopment in sub-

---

[7] The productivity paradox refers to the debates on the connections between presence of information technology and development, or prevalence of information workers and growth. In their research, Dordick and Wang (1993) found that countries with similar sizes of information sectors did not have the same level of growth. "For example, in 1987 Trinidad and West Germany both had information sectors between 32% and 33% of the work force, but Trinidad's GNP per capita was about $5,000, while West Germany's was about $14,000." (p.49-50) A correlation has also not yet been established between high levels of ICTs and economic growth in developing countries.

Saharan Africa (So, 1990; Brohman, 1996; Martinussen, 1997 and Seligson, 1998). As Dordick and Wang (1993) note, the idea of development communications "is the forerunner of current thinking about *development informatization* (italics in the original). It should not be surprising that the information technologies have replaced communication technologies as the great hope for economic growth." (p.25).

Even as these authors acknowledge the historical linkage between development communication and development informatization, they however do not address the fact that even in the 1950s and 1960s, *information* was also integrated in the assumptions made by theorists of development communication. Back then, there was no conceptual separation between information and communication and their role in the development process. The focus was therefore not merely on the means of communication (the technologies) but on the messages that were communicated (information). Development informatization – a process of change toward an information society – invokes notions of the prevalence of information as a factor of production (and therefore economic growth) in ways that are different from information starkly conceived in the early days of development communications as having the capacity to transform attitudes. However, regardless of the differences between the roles of information in development then and now, the classical assumptions about information today are informing policy and practice in the acquisition and use of ICTs in developing countries.

For instance, the UNDP is now at the forefront of projects aimed at getting Africa connected. In 1992, the agency initiated the Sustainable Development Networking Program (SDNP) with 12 countries in Africa, Asia and Latin America:

> The program emphasizes the importance of sharing information at all levels of society in developing countries. Access to information sources by decision makers and by different members of society is the essential element in understanding and furthering the concept of sustainable development.[8]

Admittedly, the UNDP does not claim that access to information would directly translate into development. The organization states this much in its SDNP's program statement: "SDNP is based on the concept of building solutions. Countries design their own unique plans to achieve sustainable development and SDNP provides the decision makers in government and civil society with information that is relevant for both design and implementation of the development plan."[9] But at the level of practice, SDNP field workers interpret the objectives differently. For instance, Wawa Ngenge, the SDNP director in Cameroon, wrote an article posted on an SDNP website devoted to success stories: "People are poor because they don't have information. They lack the power that information can give them."[10] SDNP has provided access to the Internet and other ICTs in more than 20 countries around the Third World, including eight in Sub-Saharan Africa and two (Morocco and Tunisia) in North Africa. Each country has its own success story of "life after SDNP."

---

[8] http://www.undp.org/sdnp

[9] Ibid.

[10] http://www.sdnp.undp.org/stories/cameroon.html

John Fleming, writing in the *Christian Monitor*, sums up the interest of the UNDP and other development agencies in giving Africa Internet handouts: "The message of all institutions and other organizations involved in development programs emphasizes the urgency of providing Africa with ways to enter and participate in the world economy, where information and communication technologies are a *factor of economic development*."[11] This statement sounds so eerily familiar. In 1964, Wilbur Schramm argued that "it was the duty of advanced countries to provide communication expertise, hardware, and software to less developed countries, thus stimulating their quest for modernization" (paraphrased in Stover, 1984: 9). Decades later, critics were to point out that the promised modernization did not occur. As Seligson (1998) argues, the promises of classical economic theory (which undergirds the modernization theory of development) failed to deliver. "Classical economic theory tells us that in the end, we will all be rich, but ... a great deal of evidence contradicts that theory ... The income gap between rich and poor countries has grown dramatically since World War II."[12] Between the 1960s and 1980s, many countries launched into the broadcast era but "the rich became richer and the poor poorer." (Dordick and Wang, 1993: 22)

Essentially, development did not occur as a result of the construction of and investment in broadcast infrastructures. Rising expectations, through the images and messages transmitted in the media, led to rising frustrations as "nations could not satisfy consumer wants without meeting production needs." (Ibid.) Illich (1996) also notes that media messages (at least the type promoted by modernization theory) convinced Africans that underdevelopment was a state of mind. (See for instance, the work of Lawrence E. Harrison, 1985.) Thus the masses were converted to demand new brands of packaged solutions, forever beyond the reach of the majority. Because being modern was synonymous with acquiring a taste for foreign goods, Africans constantly aspired for things that they did not produce and could hardly afford to import. Mazrui (1986) and Leys (1996) assert that the major accomplishment of many of the earlier development strategies (including communication for development) was the creation of a people who consumed what they did not produce, and produced what they did not consume due to the economic structures inherited from colonialism. Strategies of development rooted in modernization theory drove Africa into contributing more to the industrialization of the West than the West did to develop the continent, according to many post-colonial scholars. (See also, George, 1982)

---

[11] Fleming, John, "Poor nations leapfrog to future via new technologies." *Christian Science Monitor*, May 22, 1996, Vol. 88 Issue 124, p1

[12] Seligson, Mitchell, A "The Dual Gaps: An Updated Overview of Theory and Research" in Mitchell A. Seligson and John T. Passé-Smith (eds.), *Development and Underdevelopment: The Political Economy of Global Inequality.* (Boulder, Colorado: Lynne Reiner, 1998), p.3

In the end, the "development race" ended in futility as the gap between frontrunners and stragglers has not been bridged by earlier development strategies (Sachs, 1996). It has in fact, grown wider (as argued by Pritchet, 1998). Previous development strategies failed on their core promises: development could be universalized, and it could be sustained. What then are the chances that ICTs as strategies for development as promoted by neo-liberal development economists – the descendants of classical modernization theorists –

will help poor countries to leapfrog to the highest stage of development, post-industrialization?

2:4 ICTs and development: Emerging theoretical perspectives

There are no explicit theories of ICT in the context of development, though the field is not in short of superlatives on the wonders of the new technologies. The literature generally consist of accounts of either assumptions about what ICTs can do for development or case studies of micro applications of ICTs in developing countries – such as Bada's work on the use of ICTs by a bank in Nigeria (2002). The closest to a systematic theory of ICT and development is analysis of the "five indicators of development" by participants at a workshop on ICT and development.[13]

These indicators are: literacy, education, and skills (literacy, education, training and skills, and opportunities for all members of society to increase their capacities); health (life expectancy, maternal and infant mortality, quality of life, and the levels of health care available in situations of morbidity); income and economic welfare (high levels of employment, high incomes per capita, and increased gross national product, with appropriate corrections for environmental protection and for income equity); choice, democracy, and participation (participation in social and economic affairs, with fair economic rewards, the availability of reasonable choice, and participation in the democratic process); and technology (the capacity to develop technological innovations and to make technological choices.[14] Most assertions about the capacities of ICTs to promote development are made in the context of how they improve on these indicators. For instance, Wainaina Mungai (2002) presents case studies of the ways the Internet is being used in different African countries in the areas of medical consultations, data transmission, appointment scheduling, telemedicine and information on specific diseases such as AIDS/HIV and meningitis.

---

[13] Howkins, John and Robert Valantin, eds., *Development and the Information Age: Four Global Scenarios for the Future of Information and Communication Technology* (Ottawa, Ontario: IDRC and UNCSTD, 1997)

> Across Africa, the Internet is being used in Telemedicine, monitoring disease outbreaks, reporting and publications. Telemedicine is the process that uses ICTs to transmit medical images, records, and diagnoses to remote locations in order to overcome shortages in regional health-care providers. Telemedicine technologies include Internet related applications such E-mail, satellite transmissions, audio-visual conferencing and radiotelephony.[15]

Hamelink (1997) also argues that ICTs can be used for education, health, environment, agriculture and small-scale industrialization in ways that will contribute to general economic growth. "On a world level there is a clear expectation that the new ICTs will contribute to development." (p.17) In a 1997 UNRISD discussion paper, he sums up the different positions held by advocates of ICTs for development in what approach some articulated theories of ICT and development. He identifies two major categories – which are the closest to a theoretical framework in the context of developing countries – techno-centric utopian and dystopian/pessimistic perspectives.

---

[14] Ibid., p.9-10

[15] Mungai, Wainaina, "The African Internet: Impact, winners and losers," A background paper prepared for the 2nd International conference of the African Youth Foundation (AYF) on Technology and Human Development in Africa, June 6-7, 2002, in Bonn, Germany. The paper is available at: www.ayf.de/documents/Wainana.doc

Dordick and Wang (1993) use the concepts of "band wagon approach" and "fortress approach" to refer to the same distinctions. Heeks (1999) explains the same phenomenon but through a different taxonomy in which he identifies two continua: technology impacts (from optimists to pessimists) and impact causes (from technological determinism to social determinism). Generally, utopians (or "bandwagoners") are optimistic about the abilities of ICTs to create wealth, employment and increase productivity, and raise economic growth in developing countries. They believe that ICTs represent a revolutionary and historically unprecedented force that can fundamentally transform societies and individual lives, and thus policymakers and elites in developing countries should hastily acquire ICTs as the panacea to all development problems.

> The techno-centric perspective holds that the "digital revolution" definitively marks the passage of world history into a post-industrial stage. The emerging global information society is characterized by positive features: there will be more effective health care, better education, more information and diversity of culture. New digital technologies create more choice for people in education, shopping, entertainment, news media and travel.[16]

This perspective echoes the concepts of revolution and discontinuity that pervade the discourse on ICT and development. In the literature, both in the contexts of developing and developed countries, there is a sense of awe about the new technologies and some urgency to take advantage of their transformative capacities. In practice, as shown in the field research, policymakers also conceptualize ICTs in the language and posture of revolution – of the violent kind. For instance, a major stakeholder in Nigeria's ICT sector, in an interview during the field research, repeatedly used words such as revolutions and weapons. A sampler:

---

[16] Hamelink, Cees J., *New Information and Communication Technologies, Social Development and Cultural Change,* United Nations Research Institute for Social Development, Discussion Paper #86, 1997

> … This is a revolution. It takes time for you to see the fruits of the revolution. ICT is seen as a tool of the revolution, the jetfighter, the armoured car, the bombers of this revolution. Can you see? The ICT is a tool, one of weapons. It is not the end of the war or the revolution. At times our brothers from the West tend to mix the two. No, we see ICT as a tool as one of the machine guns to be used, as the landmines or whatever is the most powerful weapon to use.[17]

But as argued by Hamelink, technological processes are rarely revolutionary and as noted in the above quote (even if it contradicts the general idea of revolution), their effects are more gradual than they are radical breakthroughs.

> A serious problem with the concept of technological revolution is that, when such a term is used, it becomes harder for policy makers to see that technological innovations come in different layers of "newness." Developments such as the Internet are not monolithic. They have various dimensions, ranging from techniques that are only slightly different from previous ICTs (such as e-mail in comparison to "snail" mail) to techniques that show less and less resemblance to earlier modes of information handling (such as newsgroups, Internet Relay Chats and three-dimensional graphical presentations in virtual reality).[18]

The dystopian/continuity approach to ICTs is mostly drawn from the work of scholars focusing on the social impacts of ICTs in developed countries. This perspective will be discussed in detail in the next section. Briefly however, this more critical analysis rejects "the idea of discontinuity and stresses the likelihood that ICT deployment will simply reinforce historical trends toward socio-economic disparities, inequality in political power and gaps between knowledge élites and the knowledge-disenfranchised." (Ibid., p.27)

---

[17] Emmanuel Ekuwem, personal interview in Lagos, November 2001

[18] Hamelink, Cees J., *New Information and Communication Technologies, Social Development and Cultural Change*, United Nations Research Institute for Social Development, Discussion Paper #86, 1997, p.24-25

2:5 Definitions and theories of the information society

Theories of the information society are fairly new, as against the older theories of development. They are different from development theories in the sense that they focus on the impacts of information and knowledge on industrialized societies. Development theories, on the other hand, continue to "grapple with the formula that would lead to a better life for people in developing nations," though "with an increasing number of developing nations making informatization a necessary step to achieving development, we can no longer afford to discuss social changes without paying attention to informatization." (Dordick and Wang, 1993:15)

As explained earlier, informatization refers to the process of change toward an information society, which is the goal of many countries in development, including Nigeria, the case study for this work. An understanding of information society theories is therefore relevant to a discussion of the implications of ICTs for socio-economic development because they allow for a more critical analysis. Many of these theories acknowledge the transforming capacities of ICTs, but disagree that the changes are for the best. For many, the technologies have taken industrial societies beyond the fifth stage in the classical stages of economic growth (Rostow, 1961), even as there is no agreement about what the next stage *really* is. Thus some scholars (Bell, 1973; Castells, 1996) write about a post-industrial or knowledge or information society or network society, driven by the knowledge and service industries, with knowledge and information being the new mode of production or development. Others draw on Marxist theorizing to explain the shift from a materialistic mode of production to a post-Fordist regime of flexible accumulation (David Harvey, 1989b, André Gorz, 1982). Other critics of the socio-economic and political implications of the new knowledge and information technologies include Murphy, et al, 1986; Postman, 1995; Habermas, 1989 and Schiller, 1985a, 1986). The question at this point is: what really constitutes the information society, or, in the absence of consensus on definition, what are the different views on the information society?

2:5:1 Defining the information society

The "information society" is rooted in ideologies of improvement manifested through two concepts. The first derives its theoretical origins from the "writings of Rolf Dahrendorf, Daniel Bell, Jacques Ellul, and others, who sought to relate increasing sophistication of technology and planning to the emergence of a new society." (Dordick and Wang, 1993: 9). Three "paradigms of progress" – the new liberty, post-industrial society and technological society – dominated the works of these writers. Dahrendorf particularly focused on the arrival of a new society in which liberty would flourish following the satisfaction of material needs. Bell (1973) conceptualized the post-industrial society as the logical stage after Walt Rostow's age of high mass consumption. In this new society, "the acquisition and codification of theoretical knowledge" become the driving economic forces in the society, replacing the manufacturing sector. This society, which subsequent writers have called the information society, is characterized by the growth of information and knowledge-based industries. Bell's thesis was that "there was a change from the production of goods to the provision of services, and that this underpinned the production of knowledge." (Dearnley and Feather, 2001: 14) While Dahrendorf wrote about the aspiration to political goals and liberty as the next stage (following the satisfaction of economic needs) and Bell envisioned a post-industrial society in which information and knowledge would become the driving factors of production, Ellul (1964) wrote about a technological society where would exist the unification of man (sic) and technique. In this new society,

> our actions will be preceded by planning for well-defined goals for which we shall assemble an "ensemble of means" or "technique" designed to achieve, in an optimal manner, the goals we have carefully planned for. No longer will man be divided in his relation to technique, but man and technique will be molded in one in order to live in this technological society.[19]

The second concept in the formulation of the information society emerged through the works of Tadeo Umesao and Masuda (in Japan); Machlups, and Porat and Rubin (in the United States). These writers focused on the ubiquity of information and knowledge and compared their economic significance to the production of goods that prevailed in the capitalist mode of production that has existed since the Industrial Revolution. The concept first featured in the writings of Japanese intellectuals through studies begun in the 1960s at the Japan Computer Usage Development Institute (JACUDI). Masuda compiled the result of these studies in a book.[20] He concluded that the "imperatives of progress and the maintenance of human values" could be harmonized but in ways that would allow a replacement of material values by more spiritual ones.

---

[19] Dordick, Herbert S. and Georgette Wang, *The Information Society: A Retrospective View* (Newbury Park, London: Sage Publications, 1993), p.12

> He proposes a society in which information values, rather than material values, are the driving force. He points to economic factors that constitute this society: universally available information at affordable costs, and quantity and quality of information with facilities for the distribution of the stocks and flows of this information. As a result information communities on a human scale, participatory democracy, and the spirit of globalism would emerge. (Dordick and Wang, 1993: 13)

Fritz Machlup (1962) was one of the earliest writers to note the shifting work force from the agricultural and manufacturing sectors to information and knowledge production. And he argued that this production of information and knowledge was as economically significant as production of goods. He did a major study of the US economy in which he

> examined expenditure on such matters as education, research and development, broadcasting and legal services. ... (and argued) that all these forms of production were knowledge-related; they were either dependent upon knowledge (education), or were a form of knowledge dissemination (publishing) or, crucially, were concerned with production of new knowledge (research and development). (Dearnley and Feather, 2001: 12)

The findings in Machlup's work were so important that they prompted the American government to commission and publish an analysis of the information economy by Porat, which contributed to a further understanding of the information society.[21]

---

[20] Masuda, Y, *The Information Society as Post Industrial Society.* (Washington, DC: The World Future Society, 1981)

[21] Porat, Marc U, *The information economy: definition and measurement* (US Dept. of Commerce, Office of Telecommunications), 1977

Given such origins, it is not surprising therefore that most definitions of the information society are economic and technological. They emphasise the role of information and communication technologies in creating a new knowledge-based economy with the preponderance of knowledge-based industries as an index of an information society. Definitions from these perspectives also highlight the contribution of the knowledge/information sector to a country's gross national product – in comparison with other sectors of the economy. But the information society has also been defined in non-economic terms. In his summary of the various ways the concept has been defined, Webster (1995) notes five analytical concepts: technological, economic, occupational, spatial and cultural.

He suggests that the information society is commonly defined from a technological perspective with the key idea being that "breakthroughs in information process, storage and transmission have led to the application of information technologies (IT) in virtually all corners of the society." (Webster, 1995:7) A technologically deterministic view of the information society stresses the falling costs, miniaturization, increasing power and pervasiveness of ICTs in the society such that as Ellul might say, there is no longer a distinction between "man and technology." Machlup's work formed the intellectual foundation for the "economics of information" and contemporary definition of the information society from a perspective (economic) that quantifies the significance of information in monetary terms. A third approach to the definition of the information society is occupational as seen in the work of Marc Porat (referred to earlier). This definition focuses on occupational change, concluding that "we have achieved an 'information society' when the predominance of occupations is found in information work." (Webster, 1995: 13)

The information society is also defined spatially with stress on the compression of space (and time) engendered by the information networks of the new technologies. These networks connect people in distant locations to create Castells's concept of the global network society (Castells, 1996). The network society refers to movements, linkages, and flows which reshape and often undermine the integrity and coherence of borders and spatial entities. Network, a word spun from the actions of a spider and its web creation, literally refers to any system of lines that cross, or a group of people who work together informally to promote common goals. And in the context of technologies, a network is a system that links together a number of computers. In a network, there is the potential for parts to become an intrinsic part of the whole to a greater degree than ever before.

According to Castells, networks now constitute the new social morphology of our societies as the diffusion of networking logic modifies the processes of production, experience, power and culture. The flows of information are emphasized in this definition of the information society, with the information networks usually compared to the electricity grid in a way that implies total connectedness. The "rise of the network society" (the title of one of Castells's books) has led to an increase in the trans-border flows of information, globalization of finance, or the cross-border flows of credit (such as loans and bonds), investment, money (foreign exchange) and other financial instruments, in unprecedented degrees. The information networks facilitate the internationalization of production such that they are considered major drivers of globalization. (Friedman 2001) Outside the economic realm, the information networks are also bringing people of diverse origins together, thus raising a groundswell of a global civil society.

> … the characteristics of time and space have been transformed with the advent of the 'network society'. Where once trade was cumbersome and slow-moving across distances, nowadays it can be effected instantaneously with computerized communications technologies; where once corporate activity had to be co-ordinated by slow-moving letter which took days and even weeks to cross the space that divided the interested parties, nowadays it takes place in real time courtesy of sophisticated telecommunications and video conference facilities. … This 'time/space compression' … provides corporations, governments and even individuals with hitherto unachievable options.[22]

The cultural definition of the information society seems to logically flow from the above. With the increase in information through the new channels of communication, people are more aware of each other and the different cultures. Television remains the prime leader in the diffusion of culture. And these days, with satellite and cable communication systems, distant places are brought home to living rooms around the world – the part of the world where the availability of electricity and television sets is taken for granted. Movies, rental videos and printed materials (such as novels and magazines) convey cultural messages from one geographical location to another. Culture has gone transnational with ease of movement through time and space. Messages and meanings have been recorded, preserved and reproduced. "In turn, they (have been) physically transmitted or moved to another place and another time. Communication therefore requires media of storage and transmission, institutions that make that storage and transmission possible, and media of reception." (Held, et al, 1999: 329) Besides the new technologies of communication, individuals have become important "carriers of cultural practices" through advances in transportation technology.

---

[22] Webster, Frank, *Theories of the Information Society*. (London: Routledge, 1995), p.20

In conclusion, one notes obvious overlaps in the technological, economic and occupational definitions of the information society. The emergence of the new technologies has resulted in a shifting labor force, with more people involved in the production of knowledge, which is considered to have the same quantifiable economic significance as the agricultural and manufacturing sectors of the economy. The major problem with these definitions lies with measurement. For instance, as Webster asks, at what point does a society become an information society? Is it when 50% of a country's GNP is dedicated to information activities? There are also problems in determining what kinds of occupations are informational. This problem particularly renders cross-national comparative studies very difficult as different countries use different categories for similar occupations. (Dordick and Wang, 1993). Also, since many of these definitions obviously proceed from a utopian perspective of ICTs, there is no interrogation of the disparities between peoples and countries in the process of informatization. For instance, in using information flow as a determinant of information society, the issue of unidirectional flow of information is often overlooked, even by more critical analysts. As Webster notes, the various definitions of the information society are either or both underdeveloped or imprecise and "we are left with highly problematical notions of what constitutes, and how to distinguish, an 'information society.'" (1995: 24) Despite these problems, theories have emerged to explain the information society (in its many definitions) and its consequences for the way societies organize their socio-political and economic lives.

2:5:2 Theories of the information society

In the following section, I survey some of these theories and the various approaches to an analysis and understanding of the information society, ICTs and the current economic world order. This exercise is expected to show how some of these theories may be used to study the implications of ICTs for development in a manner that is more critical, and thus constructive, than the prevalent utopian assumptions that pervade the popular discourse on ICTs and development. As Morales-Gomez and Meleese (1998) argue:

> The literature on information and communication technologies (ICTs) is filled with rising optimism about the contribution of these technologies to economic and social development and their potential to: transform developing countries into "modern" and knowledge-based societies. However, as yet very little is known about the veracity of these claims, much less about the long-term impact that ICTs may have on a country's social and cultural systems.[23]

For sure, one can find some critical analyses of ICTs even in the context of developing countries, as Morales-Gomez and Meleese acknowledge the emergence of a "growing voice, albeit very small, in the current discussion on ICTs, calling our attention away from the hasty introduction of these technologies, and suggesting the need to examine first and foremost the socio-economic and cultural dimensions, as well as the enabling local environments that facilitate or mitigate against successful application and use of ICTs." (Ibid.) There are many approaches to the study of the implications of the information society, but only four of these are relevant to the current purpose: stage approach, scenario-modelling, structuralism and critical theory (or political economy approach).

---

[23] Morales-Gomez, Daniel and Martha Melesse, "Utilizing information and communication technologies for development: The social dimensions," in *Information Technology for Development,* 1998, Vol. 8 Issue 1, p. 3-14

The stage approach: Analysts who adopt the stage approach seek to explain the levels of penetration and diffusion of ICTs in a given society. For instance, Kendall (1999) uses this approach to analyse the emerging information technologies and their implications for development. He identifies five stages in the life cycle of technology: technological invention or discovery, technological emergence, technological acceptance, technological sublime and technological surplus. Many African countries, including Nigeria, are clearly at the second stage of ICT life cycle. The technologies have been discovered and invented (in the West) but their "details and inherent potential" are still mysterious. Where the discourse creates any awareness, "the optimist within us dreams about how the innovation can make our lives more meaningful, easier, or just more enjoyable." (Ibid. p.1) Many assertions of the potential of these technologies for developing countries are imbued with this optimism. In Nigeria, for instance, "USE IT"[24] is at once a mantra for economic growth, and a mystery as if it is a cult accessible only to the initiated. In Kendall's analysis, the West has gone beyond the level of sloganeering and mysteriousness (or myth) as the technologies have transited from the third to the fourth phase (and probably past that stage now, three years after his book was published). In any case, during this transition (from the third to the fourth stages), there is both widespread technological acceptance and a tendency toward the sublime in the sense that the technology has been "fully understood, appreciated, and put to best uses."

---

[24] In the Nigerian Information Technology Policy, "USE IT" has a double meaning: "use Information Technology," "use it for the realization of certain goals."

While a stage approach may help in an understanding of the levels of ICT diffusion in developing countries (and will be incorporated in the analysis of ICT diffusion in Nigeria in chapters 5 and 6), it is technologically deterministic. It also does not give a complete account of the processes through which ICTs can lead to socio-economic development in these countries. It takes technology as a given and necessary condition for economic growth with the implications that the only thing countries have to do is move from one stage to the next. Also, like all stage theories, this approach is very evolutionistic. As Webster notes, "evolutionist thinking has been out of favour for a long time in social science circles" because of its intellectual vulnerability to "at least two serious charges ... the fallacy of historicism (the idea that it is possible to identify the underlying laws or trends of history and thereby to foresee the future) ... (and the) trap of teleological thinking (the notion that societies change towards some ultimate goal.)" (Webster, 1995: 35).

The stage approach also fails to address the inherent "underside" of technology, or the contradictions that the diffusion of technology raises. A stage approach implies that all countries can move from one stage to the other merely by acquiring and using the technology without considering the socio-economic implications or the factors that might intervene in the achievement of stated goals. This is a one-sided technological understanding and may mislead some developing countries to conclude that acquiring ICTs will enable them to leapfrog to industrialism. These countries *may* very well leapfrog to industrialism via their modem connections, but the end result may have unintended effects. Already, the effects of "technology" (as understood in the technological transfer debates of the 1970s) have turned out to be counterproductive to overall national economic goals in some of these countries, particularly those in sub-Saharan Africa.

The earlier argument was that technology could be transferred from the North to the South – from point of origin and invention to an entirely different cultural setting. But as Makinde (1986) argues, the whole notion of technological transfer was flawed *ab initio*. In the first place, "technological transfer (implied) its total disappearance in one place and reappearance in another without any modification."[25] The concept also connoted business, "thus technology transfer is merely another term for selling and buying technological products" without leaving any room for local production of technologies appropriate to local needs. Finally, according to Makinde, technology transfer implied a "circulation of technology" with a "reciprocal flow of resources from one nation to another, like the dissemination of knowledge." This did not occur because it was not the technology – as in the knowledge and skills – that was transferred, but the finished products. The result was that many developing countries ended up being consumers of technology – the finished products – which in many cases was not appropriate to their local needs. In other cases, the technology was obsolete, overpriced and the notion of transfer actually implied the relocation (or dumping) of environmental liabilities in developing countries. (Castells, 1996; Martinussen, 1997)

---

[25] Makinde, Akin M., "Technology Transfer: An African Dilemma," in Murphy, John W., Algis Mickunas and Joseph J. Pilotta (eds.), *The Underside of High-Tech: Technology and the Deformation of Human Sensibilities.* (New York: Greenwood Press, 1986), p. 177-189

Scenario-modeling: Another approach to the analysis of the information society (as well ICTs in the context of developing countries) is scenario-modeling or foresight study, akin to gazing into a crystal ball, or playing mock chess, in which the players make different moves to achieve different outcomes. Analysts (and policymakers in some cases) conceptualize possible outcomes based on certain conditions or scenarios. They create a scenario in which the presence of certain variables is expected to lead to certain predetermined results. South Africa commissioned such a foresight study in 1997, in which the government set up various initiatives. "After a wide-ranging process of selection, working groups of 20-30 people were formed to represent diverse interests and experience in each of 12 sectors" including ICT (Miller and Day, 2000). The objective was to predict the possible outcomes if certain initiatives were implemented in the ICT sector. This approach is also popular among futurists and environmentalists. Hammond (1998) has used it to predict the outcome of the current process of globalization.

Of more relevance to the present discussion is the way in which Howkins and Valantin (1997) apply scenario-modeling to an analysis of the implications of ICTs in a manner that integrates both elements of development theory and information society theories. Thus they provide a geographical linkage between the effects of ICTs on industrial countries and on developing countries. They model four scenarios – possible outcomes – in the use of ICTs as development strategies: the March of Follies, the Cargo Cult, Netblocs and Networld.

Scenario 1 – The march of follies: The global community is exclusive and fragmented and most developing countries tend to "respond only partially and reactively to the use and acquisition of ICTs." (Howkins and Valantin, 1997: 29) In this scenario, the market is competitive and cooperation manifests only in mergers and concentration to maximize the

> immense cash profits and monopoly rents available (especially to) electronic gatekeepers. Acting in their short-term interests, most developing countries resort to protectionism and tariff barriers. They take a passive view of global markets (and are) active only to the extent that they erect barriers to trade (without introducing) policies to generate domestic industries." (Ibid., p.31)

Scenario 2 – The cargo cult: Most developing countries assume that the global community is inclusive and supportive, but they respond only partially and reactively to the acquisition and use of ICTs. (Ibid., p. 33).

> Faced with the onslaught of new services, all owned and marketed by the United States, the EU, or Japan, developing countries adopt the same helpless attitude as did Melanesian people in the late 19th century. The arrival of foreign cargo symbolized the arrival of a new messianic age, inaugurating paradise. The natives

> gave up their indigenous working practices and stopped cultivating their fields. (Ibid.)

Howkins and Valantin argue that the cargo-cult mentality of the 19th century prevail today in debates about the potential of ICTs to transform developing countries. The new "religion," symbolized by computers, makes uncritical assumptions about what ICTs can do. Many developing countries, sometimes aided by international development agencies, are struggling to put computers in schools "even if they do not work well or have any useful software." (Ibid., p.37) Some of these countries have become dumping grounds for antiquated ICT-related equipment phased out in Western countries, raising concerns from environmentalists about the future effects of this development on the environment. Many of these countries seem to be replicating "the import substitution strategies that had been popular in the 1950s, 1960s and 1970s." (Ibid.) And just as those strategies did not result in development in many countries except for some South East Asian countries (for various reasons), the rush to wire developing countries will be abandoned, according to Howkins and Valantin, when ICT policies

> fail to deliver goods and services that could compete with foreign products. ... By adopting an uncritical approach, most countries (are gaining) access at the expense of substance. They can buy other countries' information; but they cannot generate their own. They fail to make the connection between information and development. They receive information and they expect to receive development, without working to make development in their own image. (Ibid., p.37)

Scenario 3 – Netblocs: Moving from the Cargo Cult, the world slides into regional blocs in the scenario-building models used by Howkins, Valantin and their colleagues at a symposium in Kelburn, Scotland, sponsored by IDRC and UNCSTD in 1996. In this scenario, the major assumptions are that the global system is exclusive and fragmented, and therefore "developing countries take an active approach to the acquisition and use of ICTs and develop a complete set of policies." (Ibid., p. 38) But these policies lead to a world of regional blocs even as many people and countries are wired to the global information society. The emergent blocs or groups are based on shared cultures and languages with each bloc pursuing competitive economic goals without much cooperation.

> As the scenario unfolds, each bloc establishes a strong position by virtue of its sheer size, common culture, the business skills of its young entrepreneurs and highly focused specialization ... The blocs are competitive and divisive, both against the OECD and against each other. By 2005, many blocs set up regional intranets, closed and often censored. The global environment breaks down into countervailing zones of exclusion. The poor in each bloc, who are very heterogeneous, threaten the composition of each of the blocs and of the relationships among them. (Ibid., p.39-40)

This scenario does not assume that all countries will belong to a bloc as the lack of resources by some will keep them out. Others will be isolated for lack of "natural partners." This scenario eventually collapses as differing "regional laws, regulations, and trading principles create centripetal forces that lead to a highly unstable situation." (Ibid.)

Scenario 4 – Networld: This seems the ideal end point of the journey from agricultural societies through industrial to post-industrial. In this scenario, the global community is perceived by all to be inclusive and supportive. "Developing countries have a complete and proactive set of policies toward the acquisition and use of ICTs." (Ibid., p.41) They treat information and communication as the starting point for development. "This novel approach opens the floodgates to a whole new set of policies. It also allows the developing countries to talk on equal terms with the OECD countries." (Ibid., p.43) Multilateral corporations – particularly those in the ICT sector – act in enlightened self-interest and pursue collaborative efforts with companies and institutions in developing countries. They persuade their home governments to "dismantle trade barriers" and developing countries respond to this gesture with a realization that they should "work with global corporations to create their own national information society and economy. They cannot go it alone." (Ibid.) The Kelburn symposium participants did not go as far as predicting that a Networld will eradicate poverty and deprivation, but they argue that it will create a more supportive and knowledgeable environment than the other scenarios.

An examination of these scenarios shows that they are based on two assumptions about the global political environment, and they in turn inform the response of developing countries to the use and acquisition of ICTs for development. The first assumption is similar to neo-realism, one of the theories in the discipline of International Relations. The international system is perceived as anarchic, conflictual, fragmented and in a constant state of war, and each state pursues its individual interests. States respond to the anarchic and conflict-ridden system by withdrawing to themselves and raising protective political and economic barriers against the rest of the world. Alternatively, they go into regional alliances, thus seeking strength in numbers to withstand political and economic competition in the international political economic system. In this scenario, states are more interested in amassing their own technological capabilities, rather than sharing knowledge and information, a key component in the analysis of the emancipatory effects of ICTs.

The second assumption on which the scenarios are based is a blend of neo-liberal institutionalism and complex interdependence.[26] Neoliberalism draws attention to the possibility of cooperation even in an anarchic system and the ability of institutions such as the United Nations and regimes such as those that oversee international intellectual property rights to mediate conflicts in the emerging information society. A benign – liberal economic and democratic – view of the international system encourages developing countries to pursue ICT policies with a view to transforming their societies socio-economically, as well as becoming part of the more cooperative and supportive global information society – or global political economy.

While Howkins and Valantin do not ostensibly privilege any of the scenarios as being the most or best possible outcome, their preference for the Networld is clear. And this preference undergirds many of the arguments about the information society – both in the context of industrial nations and the potential that ICTs offer for development in South countries. Like similar arguments – as Howkins and Valantin themselves acknowledge – there is no direct linkage between ICTs and development in a way that enables countries to move from the first three scenarios to the fourth. But scenario-modeling is not an exact science and are just that models – ideal types of realities, but not realities themselves.

---

[26] The distinctions between these two theories of international relations are not always very explicit.

However, the Cargo Cult may be closer to the reality in many sub-Saharan African countries today as they encounter the new "religion" of ICT which has been endowed with the messianic capacity to bring economic and political salvation to the poorest region in the world. This scenario explains the policies and acquisition of ICTs as development tools in many developing countries, including Nigeria. The country, going by the policy on information technology, released in 2001, and statements of public officials and significant private-sector actors, believes that the "global community is inclusive and supportive." (Howkins and Valantin, 1997: 33). In the vision statement of the Nigerian policy on information technology, one reads that the national policy is aimed at making "Nigeria an IT capable country in Africa and a key player in the Information Society by the year 2005, using IT as the engine for sustainable development and global competitiveness."[27]

The policy on information technology and the telecommunications policy released in 2000 are Nigeria's response to the messianic message about the redemptive powers of the new technologies. These policies are expected to guide the development and diffusion of ICTs as tools for economic development in the country. This response is reactive because it is trying to mirror developments in the West. And while the policy on information technology has provisions for indigenous development of these technologies and emphasis on research and development, the implementation so far seems to again lean toward importation as a fast way of diffusing them. This point is underscored by the fact that the commercial attaché of the United States Embassy in Lagos, Miguel Pardo de

---

[27] Federal Republic of Nigeria, *National Policy for Information Technology (IT)* (Government copy), 2001.

Zela, attends many IT-related conferences, symposiums and workshops in the country. And his message always is: jump on the bandwagon of these technologies or be left behind. He paints a very utopian picture of what these technologies can do for small businesses and for the general economy of the country. And his audience, many of whom are still awed by the hegemonic role of the United States in international politics, are always captive. At one of such events, de Zela ended his speech with "Don't come to me for visas because I won't give you" in a tone of arrogance only an American diplomat in a poor and dependent country can produce.[28] Captive audience they may be, but many Nigerians obviously do not lose sight of the fact that majority of the world's ICTs are produced by or for American companies. As a commercial attaché, part of de Zela's job is certainly to find foreign markets for these companies. Already the Dells and Compaqs and Hewlett-Packards and Microsoft are flooding the Nigerian computer and software market.

Nigeria hopes to reach its ICT El Dorado in 2005, the same year (in Howkins and Valantin's networld) when all countries will have access to an effective global network. But even they note that the networld will not be an ICT paradise.

> However, although the local access provider might have a local name, its language, user interface, menu, guide, smart agent, and search agent are usually devised, owned, and managed by foreign companies. Some companies look for local companies to originate local user interfaces, but they often do not exist. The talented young people who want to work in software development are forced, because of the lack of local training schemes and local opportunities, to go to the USA, Europe or Singapore. (p.35)

---

[28] This was at a workshop organized by the Nigerian Internet Group in Lagos on September 28, 2001.

Will this be the picture of Nigeria's ICT industry in the year 2005? We will return to this theme in the last chapter after we would have considered the processes and development of Nigeria's information and communication technologies. We will then be able to forecast the most plausible outcome of the country's current engagement with ICTs as tools for socio-economic development.

Structuralism: Ian Miles (1996 and 1988), in an approach similar to Heek's, overviews the debates on ICTs along two dimensions: depth (change) and width (control). Out of these dimensions, he constructs four approaches to an understanding of the issues: continuism, transformism, concordism and antagonism. Continuism, as the name implies, takes the position that ICTs are facilitating existing structures without any significant change or socio-economic innovation. Transformism, on the other hand, stresses the unprecedented nature of the effects of ICTs in creating a fundamentally new society – an information society – with the technologies having "all-pervasive revolutionary potential." These two perspectives are derived from the depth dimension. In the width dimension are concordism and antagonism. The concordists perceive ICTs and the information society as being characterized by greater democracy, decentralization, self-expression, and personal choice (along the lines of the ideologies of improvement of Dahrendorf, Bell, Ellul and Masuda – referred to earlier in this chapter). Antagonists (who along with continuists) are more critical of the information society stress the threat of "greater surveillance and control on political and personal activities by a centralized state."[29]

It is the synthesis of the width and depth dimensions and their extreme positions that results in Miles's structuralist theory of the information society. In an earlier work, Miles, et al (1988) had identified three main schools in the debates on ICTs. These are transformism, continuism and structuralism. Here too, the authors privilege structuralism as the best approach to explaining the effects of information technology (IT). The theory recognizes that the "diversity of actors and interests – embodied in the different social structures of different countries, organizations, and groups – confront a multiplicity of choices which lead to many possible outcomes." (p.40) Structuralism assumes that IT "has revolutionary implications and may lead to reshaping many areas of social life." But it also acknowledges that diffusion of IT will "be uneven, with some countries and sectors proving far more able to capitalize on (its) potential." (Miles, 1996: 40)

This approach contributes to the debates on the potentials of ICTs as tools for socio-economic development in two ways. First, it serves as a bridge between the utopians and dystopians (or consensus and conflicts) in ways that do not conceptualize the abilities of ICTs in unduly optimistic tones, but at the same time do not overlook their capabilities as tools to promote economic activities in countries such as Nigeria. "It draws on the contributions of all positions and overcomes the limits of each extreme." (Miles, 1996: 40) Secondly, it is similar to the Networlds scenario discussed above but corrects for utopianism by stressing the different social structures of countries and their institutional and cultural differences that will mediate the ways in which different countries apply these technologies such that there will be multiple future outcomes.

---

[29] Miles, Ian, "The Information Society: Competing Perspectives on the Social and Economic Implications of Information and Communication Technologies," in William Dutton, ed., with the assistance of Malcolm Peltu, *Information and Communication Technologies: Vision and* Realities (Oxford University Press, 1996), p. 38

Critical theory: This theory is open to a variety of interpretations, depending on the discipline where the approach is used, but it is generally rooted in its neo-Marxist origins. While in International Relations, critical theory may refer to the body of "alternative" theories in the field such as neo-Marxism, feminism and postmodernism, it can also be more narrowly defined. Cox (1996) makes a distinction between problem-solving theories and critical theories. To him a problem-solving theory "takes the world as it finds it, with the prevailing social and power relations and the institutions into which they are organized, as the given framework for action."[30] It aims at getting existing relationships and institutions to "work smoothly by dealing effectively with particular sources of trouble." (Ibid.) Critical theory, on the other hand, steps out of the general framework to ask how the prevailing order came into existence. It "does not take institutions and social power relations for granted but calls them into question by concerning itself with the origins and how and whether they might be in the process of changing. ... Critical theory is directed to the social and political complex as a whole rather than to the separate parts." (Ibid., p.89)

---

[30] Cox, Robert, "Social Forces, States and World Orders," in Cox, Robert, with Timothy J. Sinclair, *Approaches to World Order.* (Cambridge University Press, 1996), p.88

Though drawing from Cox's definition of critical theory, Linklater (1996) departs slightly by stressing the emancipatory role of theory. Like Cox, he agrees that theory is always for someone and for some purpose, and argues that the purpose of any knowledge should be human emancipation. He therefore rejects the immutability inherent in problem-solving theories (such as neorealism in International Relations).

> Critical-theoretical response is to oppose claims that structures cannot be transformed because they are securely grounded in human nature or in a condition (like anarchy) which human beings are deemed powerless to alter. ... It rejects systems-determinism and affirms the capacity of human agents to act collectively to free themselves from structural constraints.[31]

On the surface, there does not seem to be any linkage between Cox and Linklater's critical theory with a discussion of the information society or ICTs in the context of less developed countries. But in his *Theories of the information society,* Frank Webster (1995) shows how critical theory has been used as an approach in this field. In reviewing the five different approaches to a definition of the information society (discussed earlier), he identifies two major categories in the debates: information society and informatization. Information society analysts (for instance, Bell, 1973) generally view ICTs as creating a new society that is completely different from the current industrial societies. And ICTs are the driving factors of this new society, creating a new informational mode of development. Like Miles' continuism, informatization considers the information society as "continuation of pre-established relations" and does not signal any fundamental break with the past. (Webster, 1995: 5). Informatization approach includes, among other perspectives, neo-Marxism – the Critical Theory strand – or political economy approach (Herbert Schiller, 1986; Vincent Mosco, 1996). None of these theorists "denies that information is of key importance to the modern world, but unlike the former, they argue that its forms and function are subordinate to long-established principles and practices." (Webster, 1995: 5)

---

[31] Linklater, Andrew, "The Achievements of Critical Theory" in Steve Smith, et al (eds.), *International theory: positivism & beyond (*Cambridge University Press) 1996. p.280.

Characteristics of critical theory: There are three major characteristics in the critical theory approach to an understanding of the information society. First, there is "an insistence on looking behind information ... to the *structural* features which lie behind ... media images. Typically these are economic characteristics such as patterns of ownership, sources of advertising revenue, and audiences' spending capacities." (Webster, 1995: p.75, italics in the original.) Of course, Linklater's strand of critical theory – which leans somewhat toward postmodernism – argues that human beings can act as agents to overcome structural constraints. One does not dispute this – as in fact, one of the empirical chapters shows how Nigerians are overcoming some of the constraints in the application of ICTs as tools for socio-economic growth. But one argues that uncritical and utopian assumptions about the potentials of ICTs for development that overlook structural constraints may not serve developing countries well in the achievement of their economic goals. Second, critical theory directs attention to the systemic analysis of ICTs to facilitate a framing of these issues within the larger socio-economic system. Third, it facilitates a holistic analysis of the effects of information and communication on the society. In the context of developing countries, this approach makes possible a deconstruction of ICTs into their component units as information, communication and technology, so that their implications for socio-economic development can be rigorously evaluated. Critical theory also helps the analyst or policymaker to avoid the pitfalls created by a partial technological or informational determinism, which ignores the larger societal constraints in the ability of developing countries to usefully harness ICTs for development. It raises questions of power, control and interests. Proponents ask questions about the development and applications of these technologies and for whose interests. For instance, Schiller's critical theory allows one to ask questions such as:

> Who initiates, develops and applies innovative information technologies? What opportunities do particular people have – and not have – to access and apply them? For what reasons and with what interests are changes advocated? To what end and with what consequences for others is the information domain expanding? (Webster, 1995: p.76)

These are some of the questions asked in the course of this research and the answers are useful in the analysis of the linkages between ICTs with socio-economic development in Nigeria. For instance, one seeks to know who the prime actors are in the development and acquisition of ICTs for development and the role of the various sectors. As will be seen in the coming chapters (particularly Chapter 4), the state in Nigeria plays a crucial role in the development of ICTs through the creation of a regulatory framework and conducive environment, but it insists that much of the work will be undertaken by the private sector. There is obviously a conflict in the economic motivations of the private sector (namely, maximization of profits) and the socio-political obligations of the state to equitably allocate sources to the various sectors of the society. Critical theory facilitates the exploration of the ways in which the intentions of the state to harness ICTs for overall socio-economic growth are in harmony with its decision to de-regulate the industry and throw the doors open to the private sector.

2:6 Prospects for a theory of ICT and development

The review of the different theoretical positions in the field raises some important questions in the attempt to construct a useful theory of ICTs and development. First, is it possible to construct a theory that provides an understanding of the acquisition and use of ICTs deliberately to promote socio-economic growth in developing countries without falling into the trap of ideological polemics – either in support of or against the possibilities of ICTs to enhance socio-economic growth? Second, can this theory explain the role of ICTs in effecting outcomes in the five indicators of development (Howkins and Valantin, 1997) assuming that one adopts them as valid indices of development?

Martinussen (1997) has suggested that for a theory to be considered a theory of development, it must seek to answer certain questions. Some of the theoretical assumptions considered above arguably pass Martinussen's test of a development theory, and they do guide policy choices in many development countries. But they are not sufficiently rigorous to constitute an articulated theory of ICT and development – if at all it is possible to have such a theory. In the end, one is faced with two choices.

One is reliance on a familiarity with the modernization theories of development communications and application of such to an understanding of contemporary analyses of ICTs and development, since the latter are clearly framed around classical modernization theories that linked development to information and communication. The second option is to draw from the theories of the information society – which fail Martinussen's test of development theory – to explain ICT usage and application as tools for socio-economic growth in a developing-country context. There is still a third option: to create a synthesis from certain elements from both groups of theories with which to build an integrative theoretical framework.

This approach may not also be rigorous enough as a clearly constructed theory, but it will succeed where current theories fail. For instance, none of the perspectives rooted in modernization theory or information society theories by itself is both critical and comprehensive enough *and* applicable to development-country context to guide research and analysis of this work. And, as will be explained in the last section of this chapter, a work of this nature necessarily demands that one adopts a critical perspective. So far, the field is dominated by utopian or technologically-deterministic research that may unwittingly regurgitate earlier analyses of development communications that uncritically suggested that the presence of technologies of communication and information in developing countries were, by themselves, sufficient factors for socio-economic growth.

In the next section, one constructs a critical theoretical framework to be used in the explanation and analysis of many of the issues explored in this dissertation.

2:6:1 Toward a critical theory of ICTs and development

While each of the different theories – either in the context of developing or industrialized countries – contributes to an understanding of certain aspects of the ICT-for-development discourse, none, by itself adequately explains the multi-faceted nature of the subject. But it is important that one adopts a theoretical framework that will facilitate the explanation and analysis of the research findings. And to accomplish this, one must draw ideas from the different perspectives with particular emphasis on the capacity of critical theory to help in answering the research questions. While a theory may not be crucial in understanding a descriptive case study such as this dissertation, it assists in the determination of the parameters of the research to clearly state the elements that the researcher is examining, and those excluded. A theory will also help in providing a handle for the description of the process through which Nigeria is engaging with ICTs as tools for development, as well as facilitate tentative predictions for the future.

Elements of an alternative theoretical framework: To construct a useful theoretical framework for this dissertation, one selects certain elements from the various theories discussed in this chapter.

First, one finds Kendall's stage approach useful, but only in the understanding of the status of ICTs – or penetration level – in Nigeria. The five stages in the life cycle of technology will be used alongside a framework of analysis developed by Peter Wolcott (for the Mosaic Group)[32] in quantifiably assessing the status of ICTs, as well as the level of usage, in Nigeria. In the discussion of Kendall's stage approach, I observed that many sub-Saharan African countries, especially Nigeria, are in the second cycle of technology: technological emergence. As will be shown in the empirical chapters, there is an awareness of the technologies in Nigeria and their applications as tools to stimulate economic activities in the country. But the spread is uneven, concentrating mostly in the three "high-tech" cities of Lagos, Abuja and Port Harcourt. Even in these cities (especially Lagos and Port Harcourt) where there is a high percentage of urban poor, not many people have access to the technologies, and thus a greater percentage of the population are likely to be left out of the perceived benefits of these technologies. Wolcott's framework of analysis helps in the explanation of the unevenness of ICT diffusion in the country.

Second, Miles' structuralism facilitates the analysis of the structural and institutional constraints that will mediate the ways in which different groups of people in the country access these technologies. A question calling for the discussion of these constraints was posed to participants in the research. Also, data collected from other sources showed that Nigeria's anticipated journey to the information society will not be hurdle-free (and these constraints are discussed in Chapter 8). Structuralism does not consider the applications of ICTs as wholly beneficial (utopian) or wholly destructive, but allows an examination of the ways in which the positive effects can be enhanced and negative effects minimized. In Nigeria, steps have been taken to overcome some of the structural constraints but the results so far are not positively strong enough to vindicate Linklater's optimism in the ability of human agency to overcome structure. A structuralist analysis allows for a discussion of some of these steps in ways that may contribute to policy making in the country.

---

[32] Wolcott, Peter, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis (*A Mosaic Group Report January 1997).

Third, like structuralism, critical theory (Schiller's, not Linklater's or Cox's) is also useful for highlighting Nigeria's structural features, especially because it is systemic and holistic. It problematizes the concept of ICTs by deconstructing them to critically examine the linkages between their applications and economic growth. Though rooted in industrialized-country context, Schiller's critical theory stresses market and class inequalities in a way that departs from the utopian assertions that ICTs will provide a level-playing field for all peoples and countries. Schiller brings class into the discourse because "class shapes who gets what information and what kind of information they may get. Thereby, depending on one's location in the stratification hierarchy, one may be a beneficiary or loser in the information revolution." (Webster, 1995: 77) Nigeria is a peripheral capitalist country and class is therefore not conceived in classical Marxist terms. But class does exist in Nigeria, though it does not lend itself to any simple analysis. And while there is no deliberate focus on class inequalities in the use of ICTs in

Nigeria, class does come through in the examination of issues of access, affordability, availability and awareness in the country's ICT discourse. And in the context of social stratification, one also observes the mediation of gender in the use of ICTs in the country. Thus, critical theory allows one to examine the various ways that people from diverse socio-economic and gender groups are using ICTs and for what purposes.

Finally, Howkins and Valantin's scenario-modelling is useful in making tentative predictions of the outcome of the current attempts by Nigeria to develop its ICT sector. The approach also allows one to pay attention to the actions/activities of the state, as the authors proceed from the premises that states (and perhaps corporations) will determine the end point – at any of their four scenarios.

At every point, the analysis will be critical as one of the objectives of the dissertation is to contribute a critical voice to the utopian proclamations about the potentials of ICTs for socio-economic development. While this theoretical approach may not stand a rigorous test of theory, it is hoped that its eclectism will facilitate a more broad-based explanation and understanding of the processes through which Nigeria is developing and utilizing ICTs deliberately for socio-economic growth.[33] As currently constituted, each of the different perspectives cannot, on their own, successfully achieve the objectives of this research, namely a critical analysis of the process through which ICTs can translate to socio-economic development, nor adequately provide a framework through which one can satisfactorily respond to the research questions.

---

[33] Charles Jarmon (1988) used a similar integrated theoretical framework, drawing ideas from modernization, dependency and world systems theories, in his analysis of the process of national development in Nigeria.

2:7 Conclusion

This chapter began with a discussion of the various theories and strategies of development, starting with classical modernization theory. The aim was to show how former theories of development, particularly those concerned with development and communication or information, structure current debates about the connections between the acquisition of ICTs and socio-economic growth in developing countries. The theoretical survey also included a discussion of concepts and theories of the information society which are mainly concerned with the implications of ICTs for socio-political and economic organizations in industrialized countries. One argued that some information society theories, which are more critical than development theory, could be modified and applied to developing-country setting. And in the absence of a specific theory that provides explanation for the ICT-for-development project, I drew on the elements of the various theories to explain and analyse the findings of this research. It is hoped that the alternative theoretical framework will provide a more critical and holistic explanation of the ways in which Nigeria is harnessing ICTs for development, especially because it focuses on the role of the various societal sectors as well as the institutional and ideological structures of the Nigerian society.

In the next chapter, I present an overview of the history of development efforts and strategies in Nigeria. The purpose is to show the central role of the state in the development in the country and compare it with its current role in the harnessing of ICTs as tools for socio-economic development. The historical survey conforms to the case study approach which is not only historical but also interpretive and tries to find the connections between past and present events in order to make tentative predictions about the future outcomes of certain developments.

References

Aké, Claude, *Social Science as Imperialism: The Theory of Political Development* (Ibadan, Nigeria: University of Ibadan Press, 1979)

Akpan, Patience Idaraesit, "Newspapers through the window: Creation of the online newspaper," an unpublished Master's Research Project, Carleton University, 1996.

— "A Critical Approach to an Analysis of ICTs and Development." A paper presented at the annual conference of the Canadian Association of African Studies, Edmonton, Alberta, May 27-30, 2000.

— "Africa in the age of a global network society: The challenges ahead" -- presented at the annual international conference of the Association of Third World Studies, in San Jose, Costa Rica, Nov. 18-21 and published in *African Studies Quarterly,* Summer, Vol. 4: 1, 2000.

Almond, Gabriel and Sidney Verba, *The Civic Culture; Political Attitudes and Democracy in Five Nations, An Analytic Study.* (Boston, Masschusetts: Little, Brown, 1965)

Amin, Samir, "The Ancient world-systems Versus the Modern Capitalist World-System" in André Gunder Frank and Gills, Barry K., eds. *The World System: Five Hundred Years or Five Thousand?* (London; New York: Routledge, 1993)

Avgerou, Chrisanthi "How Can IT Enable Economic Growth in Developing Countries?" *Information Technology for Development*, 15-28, 1998

Bada, Abiodun, "Local Adaptations to Global Trends: A Study of an IT-Based Organizational Change Program in a Nigerian Bank," in *The Information Society,* Volume 18, Issue Number 2 (March 1, 2002)

Bell, Daniel, *The Coming of the Postindustrial Society: A Venture in Social Forecasting.* (New York: Basic Books, 1973)

Brohman, John, *Popular Development: Rethinking the Theory & Practice of Development.* (Malden, Massachusetts: Blackwell Publishers Ltd., 1996)

Browne, Robert S., "Africa's Economic Future: Development or Disintegration?" in *World Policy Journal,* Volume 1, No. 4, Summer 1984

Castells, Manuel (ed.), *High Technology, Space, and Society* (Beverly Hills, California: Sage Publications, Inc., 1985)

— *The Rise of the Network Society.* (Cambridge, Massachusetts: Blackwell Publishers, Inc., 1996)

— and Peter Hall, *Technopoles of the World: The Making of 21st Century Industrial Complexes.* (London and New York: Routledge, 1994)

Chilcote, Ronaldo, *Theories of Comparative Politics: The Search for A Paradigm Revisited,* Second Edition. (Boulder, Colorado: Westview Press, 1994)

Cole, Sam and Ian Miles, *Worlds Apart: Technology and North-South Relations in the Global Economy.* (Brighton: Wheatsheaf, 1985)

Cox, Robert W. with Timothy J. Sinclair, *Approaches to World Order.* (Cambridge University Press, 1996)

Dordick, Herbert S. and Georgette Wang, *The Information Society: A Retrospective View* (Newbury Park, London: Sage Publications, 1993)

Dos Santos, Theotonio, "The Structure of Dependence" in Mitchell A. Seligson and John T. Passé-Smith (eds.), *Development and Underdevelopment: The Political Economy of Global Inequality.* (Boulder, Colorado: Lynne Reiner, 1998), p.251-261

Ekuwem, Emmanuel, managing director of Teledom International and vice president of the Nigerian Internet Group (NIG), personal interview in Lagos, October 2001.

Ellul, Jacques, *The Technological Society.* (New York: Vintage Books. 1967)

Fleming, John, "Poor nations leapfrog to future via new technologies." *Christian Science Monitor*, May 22, 1996, Vol. 88 Issue 124, p1.

Frank, André Gunder, *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil* (New York: Monthly Review Press, 1967)

Friedman, Thomas L., *The Lexus and the Olive Tree,* 1st edition. (New York: Farrar, Straus & Giroux, 2000)

George, Susan, *A Fate Worse than Debt*, 1st edition. (New York: Grove Press, 1988)

– "How the Poor Develop the Rich," in Rahnema, Majid with Victoria Bawtree (eds.), *The Post Development Reader.* (London, U.K.: Zed Books, 1997)

Giddens, Anthony, *The Consequences of Modernity.* (Cambridge: Polity, 1990)

– *Runaway World: How Globalization is Reshaping Our lives.* (New York, New York: Routledge, 2000)

Gorz, André, *Farewell to the Working Class.* (London: Pluto Press, 1980)

Habermas, Jürgens, *The Structural Transformation of the Public Sphere: An Enquiry into a Category of Bourgeois Society.* (1962) Translated by Thomas Burger with the assistance of Frederick Lawrence. (Cambridge: Polity, 1989)

Haggard, Stephan and Robert R. Kaufman, eds., with contributions by Peter Evans, *The Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State* (Princeton, N.J.: Princeton University Press, 1992)

Hamelink, Cees J., *New Information and Communication Technologies, Social Development and Cultural Change.* (Geneva, Switzerland: United Nations Research Institute for Social Development, 1997), Discussion Paper, Number 86

Hammond, Allen L. *Which World? Scenarios for the 21st Centur: Global Destinies, Regional Choices.* (Washington, DC: Island Press, 1998)

Harrison, Lawrence E., *Underdevelopment is a State of Mind: The Latin American Case.* (Landham, Maryland: Centre for International Affairs, Harvard University and University Press of America, 1985)

Harvey, David, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change.* (Oxford: Blackwell, 1989)

Heeks, Richard, *Information and Communication Technologies, Poverty and Development.* (Manchester, U.K.: Institute for Development Policy and Management, University of Manchester, 1999), Development Informatics Working Paper Series, Paper No. 5. Printed from http://www.man.ac.uk/idpm_dp.htm#devinf_wp

Howkins, John and Robert Valantin (eds.), *Development and the Information Age: Four Global Scenarios for the Future of Information and Communication Technology.* (Ottawa, Canada: IDRC/UNCSTD, 1997)

IFIP WG 9.4, *Conference Proceedings.* Conference 2000: Information Flows, Local Improvisations and Work Practices, Cape Town, South Africa, May24-26, 2000.

Illich, Ivan, "Development as Planned Poverty," in Rahnema, Majid with Victoria Bawtree (eds.), *The Post Development Reader.* (London, U.K.: Zed Books, 1997)

Inkeles and Smith, *Becoming Modern: Individual Change in Six Developing Countries.* (Cambridge, Massachussets: Harvard University Press, 1963, 1974?)

Jarmon, Charles, *Nigeria: Reorganization and Development Since the Mid-Twentieth Century.* (Leiden, The Netherlands: E. J. Brill, 1988)

Kalu, Kelechi A., "Perspectives on Technology and Economic Development in Nigeria," in *Journal of Third World Studies*, Vol. XVII, No. 1, 2000.

Keohane and Nye, *Power and Interdependence: World Politics in Transition.* (Boston: Little, Brown, 1977)

Kendall, Kenneth E. (ed.), *Emerging Information Technologies.* (Thousand Oaks, California: Sage Publications, 1999)

Lerner, Daniel, *The Passing of Traditional Society: Modernizing the Middle East.* (Glencoe, IL: Free Press, 1958)

Leys, Colin, *The Rise and Fall of Development Theory. (*Nairobi : EAEP ; Bloomington, Ind. : Indiana University Press, 1996)

Linklater, Andrew, "The Achievements of Critical Theory" in Steve Smith, et al (eds.), *International Theory: Positivism & Beyond (*Cambridge University Press) 1996. p.279-300.

Machlup, Fritz, *The Production and Distribution of Knowledge in the United States.* (Princeton, NJ: Princeton University Press, 1972)

Makinde, Akin M., "Technology Transfer: An African Dilemma," in Murphy, John W., Algis Mickunas and Joseph J. Pilotta (eds.), *The Underside of High-Tech: Technology and the Deformation of Human Sensibilities.* (New York: Greenwood Press, 1986)

Martin, Michèle, with contributions by Graham Knight, *Communication and Mass Media: Culture, Domination and Opposition.* (Scarborough, Ontario: Prentice Hall Allyn and Bacon Canada)

Martinussen, John, *Society, State and Market: A Guide to Competing Theories of Development.* (Atlantic Highlands, New Jersey: Zed Books, 1997)

Masuda, Y, *The Information Society as Post Industrial Society.* (Washington, DC: The World Future Society, 1981)

Mazrui, Ali Al'Amin, *The Africans: A Triple Heritage.* (Boston, MA : Little, Brown, 1986)

McClleland David, C., *The Achieving Society.* (Princeton, New Jersey: Van Nostrand, 1961)

Mehmet, Ozay, *Westernizing the Third World: The Eurocentricity of economic development theories,* second edition. (London and New York: Routledge, 1999)

Miles, Ian, "The Information Society: Competing Perspectives on the Social and Economic Implications of Information and Communication Technologies," in Dutton, William (ed.) with the assistance of Malcolm Peltu, *Information and Communication Technologies: Visions and Realities.* (Oxford University Press, 1996

– *et al, Mapping and Measuring the Information Economy.* (Boston Spa: British Library Research and Development Department, 1990)

– Ian, Howard Rush, Kevin Turner and John Bessant, *Information Horizons: The Long-Term Social Implications of New Information Technologies.* (Hants, England: Edward Elgar Publishing Limited, 1988)

Miller, Jonathan and Robert S. Day, "Towards a national ICT policy and planning process: lessons from South Africa," in IFIP WG 9.4, *Conference Proceedings.* Conference 2000: Information Flows, Local Improvisations and Work Practices, Cape Town, South Africa, May24-26, 2000.

Morales-Gomez, Daniel and Martha Melesse, "Utilizing information and communication technologies for development: The social dimensions," in *Information Technology for Development,* 1998, Vol. 8 Issue 1, p. 3-14.

Mosco, Vincent, *The Pay-per society: Computers and Communication in the Information Age: Essays in Critical Theory and Public Policy.* (Toronto, Ontario: Garamond Press, 1989)

— *The Political Economy of Communication: Rethinking and Renewal.* (London, Thousand Oaks: Sage, 1996)

Mowlana, Hamid, *Global Information and World Communication,* Second edition. (Sage Publications, 1997)

Mungai, Wainaina, "The African Internet: Impact, winners and losers," A background paper prepared for the 2nd International conference of the African Youth Foundation (AYF) on Technology and Human Development in Africa, June 6-7, 2002, in Bonn, Germany. The paper is available at: www.ayf.de/documents/Wainana.doc

Ngenge, Wawa, "SDNP in Cameroon: Bridging IT Gaps," available at http://www.sdnp.undp.org/stories/cameroon.html

Porat, Marc and M. Rubin, *The Information Economy: Development and Measurement.* (Washington, DC: Government Printing Office, 1977)

Postman, Neil, *Technopoly: The Surrender of Culture to Technology*. (New York: Vintage Books, 1993)

Pritchet, Lant, "Forget Convergence: Divergence, Past, Present and, Future" in Mitchell A. Seligson and John T. Passé-Smith (eds.), *Development and Underdevelopment: The Political Economy of Global Inequality.* (Boulder, Colorado: Lynne Reiner, 1998), p.159-165

Pye, Lucian W., ed., *Communications and Political Development. (*Princeton, New Jersey: Princeton University Press, 1963)

– and Sidney Verba (eds.), *Political Culture and Political Development.* (Princeton, New Jersey: Princeton University Press, 1965)

Rostow, Walt W., *The Stages of Economic Growth: A Non-communist Manifesto.* (Cambridge, U.K.: Cambridge University Press, 1961)

Sachs, Wolfgang, "The Need for the Home Perspective," in Rahnema, Majid with Victoria Bawtree (eds.), *The Post Development Reader*. (London, U.K.: Zed Books, 1997)

Schiller, Herbert I., *Information and the Crisis Economy.* (New York: Oxford University Press, 1986)

— "New Information Technologies and Old Objectives," *Science and Public Policy,* December, 1984: 382-383

Schramm, W., *Mass Media and National Development*. (Alto Palo, California: Stanford University Press, 1964)

Seligson, Mitchell, A "The Dual Gaps: An Updated Overview of Theory and Research" in Mitchell A. Seligson and John T. Passé-Smith (eds.), *Development and Underdevelopment: The Political Economy of Global Inequality.* (Boulder, Colorado: Lynne Reiner, 1998), p.3-8

Seligson, Mitchell, A. and John T. Passé-Smith (eds.), *Development and Underdevelopment: The Political Economy of Global Inequality.* (Boulder, Colorado: Lynne Reiner, 1998)

So, Alvin Y., *Social Change and Development: Modernization, Dependency, and World-Systems Theories*. (Newbury Park, California: Sage Publications, 1990)

Stover, William James, *Information Technology in the Third World: Can I.T. Lead to Humane National Development?* (Boulder, Colorado: Westview Press/A Westview Replica Edition, 1984)

Tucker, Vincent, "The Myth of Development: A Critique of a Eurocentric Discourse" in Munck, Ronaldo and Denis O'Hearn, eds., *Critical Development Theory: Contributions to a New Paradigm*. (London and New York: Zed Books, 1999)

Waltz, Kenneth N, "Laws and Theories," in Robert O. Keohane, ed., *Neorealism and its Critics*. (New York: Columbia University Press, 1986)

Webster, Frank, *Theories of the Information Society*. (London: Routledge, 1995)

— and Kevin Robins, *Information Technology: A Luddite Analysis*. (Norwood, New Jersey: Ablex Publishing Corporation, 1986)

Wolcott, Peter, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis* (A Mosaic Group Report January 1997)

Reference on the WWW

UNDP Sustainable Development Networking Program – http://www.sdnp.undp.org

Chapter 3

A history of Nigerian economic development

3:1 Introduction

Once upon a time, Nigeria's economy was so buoyant that a head of state was reported to have declared that the country's problem was not money but how to spend it. And legend has it that in those days, Nigeria once went to the rescue of a small West African country that had been unable to pay its civil servants for months by taking care of the country's payroll. It was also the days of huge construction work in Nigeria, with many of the major roads and airports in the country built at the time. Nigeria was on its way to the big league and everyone took it for granted that the "giant in the sun" would continue on this path of unimaginable opulence. This confidence was not unfounded – at least so it seemed at the time.

First, it was the 1970s – the decade of the oil boom (or oil shocks for countries that had to pay for the spiralling price of petroleum products when Oil Producing and Exporting Countries reacted to the Arab-Israeli conflicts by cutting oil production). Though oil had been discovered in Nigeria in the late 1950s, it was only around this period that the product was found in huge commercial quantity. And soon, it had become Nigeria's major foreign exchange earner – displacing commodities, for decades the mainstay of the country's economy. With oil wells that appeared to be inexhaustible and a good price for the product, Nigerians – especially their leaders – were certain that the wealth had come to stay. Second, besides the new oil-generated wealth, Nigerians had reasons to be confident because from all accounts, the country was abundantly endowed with the major factors of production. According to classical economists this factor endowment should make Nigeria an economically viable country.

Nigeria occupies a relatively small landmass – 923,800 square kilometres – but approximately 80-90 % of it is cultivable land, and rich for various forms of agricultural activity. The country

> stretches from the lower sahelian region, about 14° North latitude to the rainy and humid tropics, about 4° North of the equator. Various relief features abound from the Jos Plateau and Adamawa hills in the north-east, to the low coastal regions of Lagos, Port Harcourt, etc., in the south. Vegetation accordingly ranges from near-desert and savannah grasslands in the north, through light deciduous forests across the mid-belt to the thick tropical forests and mangrove swamps in the south. … These variegated climatic conditions result in propitious forest resources of timber and wild life. … Minerals of all sorts exist in different parts of the country.[1]

Agricultural production is diverse, varying according to the pattern of climatic conditions in the different parts of the country. For instance, the southern parts of the country, with lots of rainfall, specialize in the production of staple food trees such as plantain and banana, and root crops such as cassava and yam, while the drier north produces grains such as sorghum and livestock. Production of cash crops also follows a similar pattern such that "rubber, cocoa, wood and palm which require plenty of rain are concentrated in the rainy south, while the country's other export crops, such as groundnuts and cotton … are produced in the drier north." (Olaloku, 1979: 3-4) The middle belt region, with its more moderate temperature mainly produces, "vegetable oils such as beniseed, sheabutter and soya beans." (Ibid. p.4) The Jos Plateau, for instance, produces most of the soya beans in the country. (Uwadibie, 2000) Other economic activities are also geographically located such that mining (when it was a major foreign exchange earner) was concentrated in specific areas of the country. Coal was produced in Enugu and the surrounding areas in the eastern part of the country while tin was mined in the plateau region of Jos in the middle belt region. The oil wells are located in the southern Niger Delta region, and manufacturing – such as there is – is concentrated in some southern cities such as Lagos (in the south west) and Onitsha in the east.

---

[1] Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996) p.36

Nigeria is also rich in human resources (or labour) – 88.5 million in the 1991 national census – but estimated by the World Bank to have reached 116 million in 2001. This population is composed of about 250 ethnic and linguistic groups with the major ones being the Hausa-Fulani (in the north), the Yorubas (in the west), the Igbos and the Annang/Efik/Ibibio (in the east and southeast respectively), the Ijaws in the Niger Delta region and the Kanuris in the northeast. The density of this population is unevenly distributed around the country with many of the northern states being sparsely populated while some of the southern states such as Lagos are densely populated. Lagos alone has an estimated population of 10 million, and is considered one of the most populous cities in the world.[2] The unevenness in Nigeria's population density is often traced to certain historical, physical, climatic, social and economic factors that are widely believed to be "mainly responsible for the present great disparities in the levels of development between geographical regions of Nigeria, particularly between the North and South." (Olaloku, 1979: 3) For instance, while Northerners also specialize in agricultural production, the frequent drought circumscribes how much food can be cultivated for sustenance. Thus a large portion of the population (namely the Fulanis) live a nomadic lifestyle, constantly moving from one place to the other literally in search of greener pastures for their cattle. Various governments at the local, state and national levels have created programs to encourage nomadic cattle rearing families in the North to live a more settled lifestyle, but their dependence on the climate also affects the social and economic development of their localities.

---

[2] Reference to Lagos as a city requires some clarification since there is actually no city of Lagos. What is often referred to by locals as "Lagos" is Lagos Island, one of the 22 local government areas that make up the state of Lagos. But due to the metropolitan nature of Lagos (the state) and its level of development, the entire state is often considered as one huge metropolis. Even the least developed of the local government areas in Lagos, such as Epe and Badagry are more infrastructurally developed than some state capitals in other parts of the country.

Nigeria is thus abundant in land, labour and the potentials for entrepreneurship and capital (with its natural and human resources). The question then is: why has the country slid from the level of middle-income country in 1979, by World Bank standards (Zartman, 1983:14), to its current status as one of the least developed and most indebted countries in the world? This work is not aimed at finding an answer to the problem of underdevelopment in Nigeria, but rather at exploring the potential for development that the new information and communication technologies (ICTs) offer to Nigeria and other countries at the same level of development.

To adequately accomplish this objective, it is necessary to return to the past to examine what had been in order to have a better picture of the present and prospects for the future. This exercise facilitates an understanding of some of the major questions of this research and the issues that they raise, particularly those concerning the role of the state in the development and usage of ICTs as tools for socio-economic growth. It also allows for an examination of some of the traditional impediments to development efforts in the country and their implications for current attempts at generating socio-economic growth in the country. We will see how previous development projects were driven and executed by the state contrasting radically with the current policies on ICTs and development which seek to minimize the role of the state. These policies are deliberately structured such that the development and diffusion of ICTs will be private-sector driven, even as this sector was not, until the mid-1980s (the years of structural adjustment programs), central to the development efforts in the country. Or at least, their role was not so recognized by the state which, through the various development plans, had made itself the key actor in the economy often venturing into areas – such as construction and transportation – that are controlled by the private sector in other countries. This chapter thus directly addresses one of the secondary questions in this dissertation and explores the perception of policymakers of the role of the state in harnessing ICTs for socio-economic development.

In this chapter, I argue that the patterns of past development efforts can shed light on the prospects of the current strategy to use ICTs for socio-economic growth in the country. In the first place, many of the issues of underdevelopment – such as poverty, unemployment and health – being tackled today have featured in past development projects. In many cases the development plans of the past were never completed; some were carried over to the next plans with new priorities while others were simply abandoned due to the current circumstances. For instance, the Civil War truncated the first national development plan, changing its perspectives from that of general development to reconstruction of the polity – politically and economically; and the military coups of the 1980s also stalled the completion of the plans of the time. A review of past plans also indicates that many of the priorities were dictated by the current wave of the moment. For instance, the Ten-Year Plan of Development, 1945-56, was formulated as a reaction by the British Parliament to the global wave of welfarism at the end of the Second World War. It was decided that some of the same privileges given to British citizens should be extended to colonial peoples, and hence £200 million was released to fund the plan. The structural adjustment program and the development plan it preceded were responses to the Nigerian debt crisis and a new economic logic of internationalization, free trade, privatization and deregulation as propagated by the Bretton Woods Institutions, particularly the International Monetary Fund (IMF) and its officials.

Thus Nigeria has a history of formulating plans and executing policies based on prevailing domestic or external circumstances and trend. It is almost inevitable therefore that when new things emerge, plans, projects and priorities are modified or completely abandoned. Today, the current wave is ICT-for-development and many Nigerians seem to have jumped on the bandwagon, believing that finally the issues of underdevelopment will be dealt with. But so was great hope placed on other strategies of development such as the Green Revolution, structural adjustment program and the focal points of each of the previous plans. A review of Nigeria's past attempts at development is therefore necessary for an exploration of the prospects that the current wave of ICTs for development project will deliver on its potential.

This excursion into the past begins from late colonialism through the various national development plans that have been formulated and initiated in the country, and right up to 2001. Much of this chapter is devoted to the review and analysis of these plans since they have been the major development planks in Nigeria and many developing countries. It is important to note that in these plans, there was no role for information and communication technologies (or telecommunications narrowly conceived as telephone communications) despite the theory and practice of development communications of the late 1950s and 1960s (as discussed in Chapter 2). There was much emphasis on radio and television, and telephones were provided but only as they enabled colonial (and neo-colonial) accumulation. While this chapter is focusing largely on Nigeria's economic history (with a summary of the political framework to put the analysis in perspective), it is a qualitative analysis and therefore does not stress econometric quantitative data and statistics that garnish most economic reviews. While some of these statistics do appear in the analysis, the objective is to survey *what* Nigeria has done to promote economic growth and development rather than simply to illustrate (in statistical terms) *how* it has fared economically during the years of reference. This qualitative framework is useful for an analysis of this nature because, as has been argued by many scholars, macro-economic data and statistics are not always true indicators of development. The United Nations Development Program (UNDP), in acknowledgement of this, introduced the human development index which incorporates traditional economic indicators with those that actually show the level of human development such as health and education.

While the concept of development may mean different things to different people, it is broadly defined in this dissertation "as the fulfillment of the necessary conditions for the realization of the potential of human personality, which translates into reductions in poverty, inequality, and unemployment. (It is also) the increasing satisfaction of basic needs such as food."(McLean, 1996:138) Thus development should be understood in terms of the fulfilment of the basic needs of the most vulnerable citizen. This definition acknowledges a relationship between economic growth and equitable distribution of resources. It departs from the generally accepted economistic conceptualization of development as a "stage" process where societies move from the "traditional" to the "modern" by increasing their annual rate of economic output, or expanding their economic productivity, regardless of equity issues.

The chapter consists of four substantive sections. In the first section, I briefly discuss the problems with development in Nigeria, as argued by different authors. This is followed by an overview of Nigeria's political and administrative history, and leads to the history of economic planning in the country. This section is sub-divided into several sections with each addressing the different development plans starting with the colonial development plan of 1900-19 to Vision 2010, the plan adopted by the government of Sani Abacha. In the third section, I present Obasanjo's national economic policy of 1999 to the present. In the final section, I discuss the new interests in ICTs as tools for socio-economic development within the context of the previous development plans and how they addressed (or failed to address) the role of communication and information in the development project.

3:2 Problems with development in Nigeria

Many writers of diverse academic and professional backgrounds have written about the causes of underdevelopment in Nigeria. But the analysis by Yesufu (1996) provides a succinct summary of the various problems that have beset efforts at development in Nigeria. He makes a distinction between development and economic growth and argues that Nigerians have been "suffering from the illusion of economic growth without development." He considers the different stages of development in the country and concludes that while the macro-economic indicators show evidence of some form of economic growth, there has been no development – which he defines simply as "the increase in the welfare and quality of life of the citizen." The lack of development in Nigeria, according to Yesufu, arises from several factors.

First, on the surface, the creation of states from three regions in 1960 to the current 36 and one Federal Capital Territory could have been a good way to open up centres of development and governance and bring them closer to the people. Instead, it has resulted in "higher tendency of insularity, inward-looking and self-centred economic interests. Interstate frictions and mutual hostility have multiplied, and intrastate community and tribal squabbles have tended to get out of hand. Economic barriers have hardened."[3] Uwadibie (2002) however disagrees with the creation-of-states-as-problem argument by suggesting that the action led to the decentralization of governance with the purpose of devolving power and control to the grassroots and thus promoting economic development. He considers this to be a positive development because "devolution of authority from the federal to state and local governments" led to people-centred outcomes such as "a more effective implementation of agricultural policy through greater participation by state and local officials." (p.xv) Admittedly, agriculture is not the totality of development efforts, yet it is significant in a country such as Nigeria with its population, land and natural resources. And if the minimum definition of development as the increase in the welfare and quality of life of the citizen is accepted, then a robust agricultural sector is a major index of development. While Uwadibie notes many positive consequences of the creation of states through his analysis of Nigeria's agricultural policies in this context, he seems to arrive at the same conclusion as Yesufu – state creation has not promoted development – but stops short of concluding that it has increased underdevelopment.

---

[3] Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996) p.40

The second on Yesufu's list of the problems with underdevelopment in Nigeria is the particular cultural practices in the country that support consumption and waste rather than savings and investment. These practices are

> manifest in lavish parties for, and on the occasions of acquisition of, meaningless chieftaincy titles, on marital and even burial occasions, child-naming, etc; heavy dowry payments in many parts of the country which young men are compelled to make against borrowed funds, and which are frittered away in drinks and other forms of conspicuous consumption … (and) overdressing by politicians, the *nouveaux riche* and the elite, who feel compelled to maintain a pompous public image … (Ibid.)

Yesufu's identification of consumption, rather than savings, is clearly based on the classical economic assumption that savings guarantee capital for investment in an economy. As discussed in Chapter 2, early modernization theorists such as Lerner (1958) argued that it was necessary that people in "traditional" societies be exposed to Western ideas of savings and investment through the technologies of information and communication so that that they would begin to practice such ideas and thereby develop. This idea is also integrated in Rostow's second stage of development – the precondition for takeoff, which include exposure to Western ideas through the media, restlessness and eagerness for changes in the worldviews of traditional peoples. Lewis (1967) also stresses the importance of savings in generating capital for investments. In the Nigerian experience, much of its current development problems, despite its abundant resources, are rooted not just in the lack of capital to invest in productive ventures, but in overspending on consumption – especially imports of consumer goods.

Third, Yesufu also attributes the problem of underdevelopment in Nigeria to the prevalence of bribery, corruption and embezzlement of public funds which "have come to constitute not just traits of trade, but virtually the most potent industry in Nigeria of the 1980s and 1990s.[4] And this problem is confounded by the phenomenon of capital flight. Those who embezzle public funds do not keep it in the country but deposit in foreign bank accounts or buy properties in other countries thus generating economic growth and development in countries other than Nigeria. For instance, in 1990, a Nigerian newspaper, quoting a report of the Morgan Trust Guarantee Bank of New York, wrote about how "some foreign bank vaults are bursting with $33 billion stashed away by some wealthy Nigerians."[5] At the time, these deposits were said to be the equivalent of Nigeria's foreign debts, and certainly money that was not being invested in the Nigerian economy.

Fourth, insecurity of life and property, especially through armed robbery which has increased as a result of the general poverty in the country, discourages tourism and investment flows to the country in a vicious circle that does not seem to have a way out. And finally, Yesufu argues that the high incidence of political instability in Nigeria, starting with the first military coup in January 1966 exactly six years after the country re-gained its political independence, a 30-month bloody civil war, followed by years of military regimes, coups and counter coups, has also exacerbated the problem of underdevelopment. A democratically elected government has ruled Nigeria for just 13 of its 42 years of post-independence history. The current Obasanjo Administration was elected into government in 1999 after 15 years of uninterrupted military rule. Incidentally, President Olusegun Obasanjo himself was from 1976 –1979 a military head of the state in the country, retiring from active military service shortly after handing over to the civilian administration of Shehu Shagari. That government lasted only four years before the military returned in a bloodless coup in December 1983.

---

[4] Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996) p.4
[5] Cited in Ihonvbere, (1994: 133-134)

Such an unstable environment does not encourage serious foreign businesses interested in investing in sustainable ventures. Many of the foreign businesses in Nigeria are in the oil industry, and though oil is Nigeria's major income earner, activities in this sector are largely non-productive in terms of enabling manufacture of consumer products in the country. This sector does not, therefore, directly generate real economic growth, because an economy – such as Nigeria's – that is overly dependent on imports (especially of consumer goods) is not self-sustaining. Also, in the age of globalization and footloose multinational corporations (MNC) seeking production sites abroad, Nigeria continues to be bypassed even as various governments continue to offer incentives to attract them. For instance, an Export Free Zone was set up in Calabar in the southeast some 15 years ago. But it was only in 2001 that there was any significant activity in the area – and this was the diversion of used vehicles imported from Europe to the Calabar seaport as an effort to de-congest the two ports in Lagos.

3:3 Nigeria: Political and administrative history

The political entity called "Nigeria" has not always existed. Indeed from 1868 to 1960, it was a British colonial territory, with at least two centuries of European imperial conquest and exploitation before formal colonial administration was established. This section offers a brief political and administrative history of Nigeria.

By 1900, the geographical area now known as Nigeria consisted of three administrative colonial territories – Lagos Colony and Yorubaland Protectorate with its headquarters in Lagos; the Protectorate of Northern Nigeria with headquarters in Kaduna; and the Protectorate of Southern Nigeria, headquartered in Calabar. A governor-general who reported directly to the Colonial Office in London administered each protectorate. "Because of difficulties of communication (each protectorate acted) as independently as its respective chief administrator saw fit." (Okigbo, 1989:5) Essentially, there were three semi-autonomous Nigerias rather than three political units within the same country. In 1906, the Lagos Colony and Yorubaland Protectorate was merged with the Protectorate of Southern Nigeria to form the Colony and Protectorate of Southern Nigeria while the Protectorate of Northern Nigeria remained intact.

This arrangement ended in 1914 with the amalgamation of the Northern and Southern protectorates to form what is now known as Nigeria – a single political and economic territory – though at the time, it was called the Colony and Protectorate of Nigeria. According to Okigbo, the 1914 amalgamation was necessitated by three strategic factors.

First, "suspected intrigues" by the French to win the support of opposition to British administration in parts of Southern and Northern Nigeria (the deposed King Kosoko of Lagos and some emirates in the Northern Protectorate, for instance) "made it strategically important that Britain should assume formal responsibility for the political administration of this vast territory in order to forestall the French."[6] Also, the two protectorates were amalgamated to contain "the aggressive commercialism of Germany, which by 1913 had become the largest net importer of Nigerian palm oil with purchases bigger than either Britain or France." (Ibid.) With the outbreak of the First World War and rising popularity of Germans in Southern Nigeria, "particularly in the Oil Rivers area," it was in Britain's strategic interests to "subordinate their (German) commercial and missionary efforts to those of British merchants and missionaries." (Ibid.)

The most compelling reasons for amalgamation were, however, financial and commercial. The administration of Northern Nigeria was running in deficit, with the South enjoying a "flourishing trade in palm oil, kernels, and cocoa." (Okigbo, 1989:6) It was decided that the South had the financial capacity to "to pay the North a special grant to reimburse it to the tune of £70,000 for customs duties collected on goods of Northern origin passing through Southern ports." (Ibid.) The proposed amalgamation was expected to relieve the British taxpayer of the cost of financing the Northern deficits through grant-in-aid. This expectation was realized in the year after amalgamation when the Colony and

---

[6] Okigbo, Pius N.C., *National Planning in Nigeria: 1900-1992*, (Islington, London: James Currey Ltd., 1989), p.5

Protectorate of Nigeria "showed a revenue surplus of £80,000," with much of that coming from the South now also carrying the financial burdens of the North.[7]

Nigeria continued on under the British colonial administration until 1960 when the people of the multi-national and multi-ethnic territory regained their political independence and became part of the international states system as a sovereign political unit. The struggle to achieve Independence was fought hard and long, but a detailed discussion of this process goes beyond this work. However, one notes the different, and often contradictory perspectives on the granting (or achieving) of independence in (or by) Nigeria and other former colonies. In Nigeria, for instance, children are told, right from the primary schools, about the gallant efforts of nationalists such as Dr. Nnamdi Azikiwe and Chief Obafemi Awolowo to regain political independence for the people of the territory now known as Nigeria. From this perspective, independence was wrought from the reluctant hands of the colonialists. However, there is a different view from some scholars in the North, as summarized by Isbister (2000), and it goes as follows:

First, imperialism had an unintended effect in engendering nationalism by challenging the identities of colonized peoples, their sense of self-worth and dignity. Prior to imperialism, Isbister argues, there was no sense of nationalism as the people were clustered in different ethnic and linguistic groups. Second, colonized people who studied in Europe returned to agitate for the same rights at home as obtained abroad. This occurred because of the "benevolence" of the colonial administrators who allowed them to travel to the colonial countries thus exposing them to Western liberal traditions. Third, the Second World War weakened Europe's ability to rule its colonies. And finally, colonialists saw the immorality of colonialism, especially after the United Nations declared that colonization would no longer be acceptable.

---

[7] Incidentally, this legacy continues in present-day Nigeria, with successive governments accused of taking resources from the South to develop the North.

A more critical "Western perspective" comes from Williams (1976) who argues that decolonisation can best be understood in the context of changes in the international political economy arising from the end of World War II, particularly when the United States emerged from the war as the dominant international power. For instance, "it opposed the protective character of British economic policy in West Africa, in favour of the 'open door' policy which had long been imposed on China and Latin America." (p.26) As the emerging global hegemon, the US could now impose new norms of international relations especially as they expressed its own political and economic interests. In this case, the new norm was self-determination especially if it meant the opening up of colonial markets to American penetration. Thus "the rhetoric of self-determination formed the basis for ideological competition between the United States and the Soviet Union" (Ibid) especially if the former was perceived by nationalists as supporting their struggles for political independence.

However it happened, Nigeria eventually achieved political independence even though economically, the linkages have lingered on. And as some would argue, colonialism must have formally ended, but it has transformed itself to continue the exploitation of Third World peoples through neo-colonialism. For instance, Goldsmith (1999) argues that the current "development paradigm" is neo-colonialism – colonialism transformed – because both are driven by the same need for raw materials and cheap labour. Also, many de-colonized countries continued for years (and some still do) as dependent economies with their major exports and imports being to and from their former colonizing countries. (Anunobi, 1992).

Post-independence Nigeria was structured around three federated political units – Eastern Nigeria, Western Nigeria and Northern Nigeria – and a central government. A fourth region – the Midwest – was later created out of the Western region. The first post-Independence central government was formed by a coalition of two regional parties – the Northern People's Congress (NPC) and the National Council of Nigerian Citizens (NCNC) – while the three regional governments were each constituted by a rival party. The Northern Region was led by the NPC with the NCNC in the East. The Action Group (AG) formed the government of the Western Region while the Midwest Region had an NCNC government. Prior to 1962, "each of the three major parties was the strongest party in one of the three regions." (Dean, 1972:4) Each party had representations in the regional and federal parliaments and in the national executive council (or Federal Council of Ministers). But as a result of the ethnic nature of the regional governments, consensus was always difficult to reach in the federal parliament or national executive council, with the situation further compounded by a weak centre.

> Regional governments established monopolies of political power and state patronage. Competition at the Federal level gave way to a ruthless cartel, determined to eliminate any opposition which could not be incorporated into the racket on its own terms. Crisis followed crisis: agreement could not be reached on census figures, the conduct of elections, the appointment of Vice-Chancellors and other public figures, and the siting of the iron and steel industry.[8]

To compound the problem of consensus at the federal level was the fact that the premiers of the regional governments were the national leaders of each party and they appointed their deputies for positions in the federal government. This meant that party representatives in the central government were subordinate to the leadership in the regional governments. Even the prime minister of the federation during the First Republic, Sir Abubakar Tafawa Balewa, was the deputy leader of the NPC and therefore accountable to the premier of the Northern Region, Sir Ahmadu Bello. Each regional premier, and especially, the coalition of the regional parties (the NCNC and NPC) that formed the Federal government and their leaders, Azikiwe and Bello, had more power than the prime minister did. This created a very weak centre against very strong regions which generally took charge of their economic planning and resources.

> The centre was, as it seemed to critics, too weak to impose its will on the politically powerful regions. The consequence was that in economic planning, the regional governments went their way and took effective control of their respective economies, except in so far as there were projects sponsored by the federal government which they sought to attract to their particular regions. (Okigbo, 1989:38)

With such confusion at the centre and rival ethnic politics in the regions it was not surprising when this first attempt at self-governance was terminated in January 1966 by a military coup, led by Major Nzeogwu and four other majors in the army. Six months later, there was a counter coup and Yakubu Gowon, another lieutenant general, emerged as the new military head of state, a position he held for the next nine years.

---

[8] Williams, Gavin, "Nigeria: A Political Economy" in Gavin Williams, ed., *Nigeria: Economy and Society*. (London, U.K.: Rex Collings Ltd., 1976), p.43. Vice-Chancellors are the North American equivalent of university presidents.

In May 1967, with Nigeria on the verge of what would become a 30-month bloody civil war, the Gowon government created 12 states out of the old four regions. This action strengthened the power and authority of the central government because in the new arrangement, a single state could no longer dominate federal planning organization as individual regions had done in the past. (Okigbo, 1989:77; Williams, 1976:46) And since then, the number of states has continued to increase with a proportional increase in the power of the central government even though, officially, Nigeria still operates a federal system of government, with the implied devolution of power to the state and local governments. The Civil War also reinforced the power of the central government and arguably brought a "greater sense of national identification to Nigerians."[9]

3:3 History of economic planning in Nigeria

There is unanimous agreement by scholars, development practitioners and even Nigerian policymakers that Nigeria is a highly underdeveloped country. As Yesufu (1996) notes, while minimal economic growth has occurred in the country, it has been too slow to translate into development. But the state of underdevelopment in Nigeria is not a factor of neglect in terms of policy. Nigeria's leaders, at least since independence, have often formulated policies and executed projects and programs aimed at promoting development in the country. This section overviews the various ways that different governments have dealt with the problem of underdevelopment, starting from the years just before Independence. I focus on economic development planning generally and the particular approach adopted by Nigeria in its development process, starting from 1900 until 1992 when the last formal development plan period ended.

---

[9] Zartman, I. William with Sayre Schatz, "Introduction" in I. William Zartman, ed., *The Political Economy of Nigeria.*(New York, New York: Praeger, 1983), p.3

Economic Planning: Okigbo (1989) defines national economic planning as

> a scheme by the state for the deliberate and systematic manipulation by state organs of forces, economic and non-economic, for the control of the economic environment organized around a set of stated goals and objectives together with a specification of the means for achieving them within a defined time period through a rational use of national resources. (p.37)

For an action of state to be considered "national economic planning," it must contain certain elements to distinguish it from other actions of the state or groups of individuals. These are:

> The authority of a national state which acts deliberately and within the framework of a system; the co-ordination of economic and non-economic forces, some within and beyond the control of the state; control of the economic environment which includes the infrastructure of institutions etc; the prescription of goals, means and instruments, time horizon and the procedure for the use of national resources. (Ibid.)

Okigbo points out that his definition is non-ideological, as it does not suggest the intentions of the state. It does not matter therefore whether the "state seeks to control, operate, run or regulate the national economy" through planning. "It is subsumed in the specification of its goals and how to achieve them. This definition can therefore serve any system of planning." (Ibid.) While Okigbo considers his definition to be non-ideological, the concept of national economic planning has historically been associated with Communist economic systems.

The first known national economic planning was the Goelro Plan of 1920 for the electrification of the Soviet Union. It was not until the Great Depression of the 1930s and the rise of Keynesianism, welfarism and the need for state intervention that economic planning began to shed some of its Communist identity. And for countries emerging from colonialism, starting with India in 1947 with the creation of the Indian Planning Commission, national economic planning seemed to be the path to accelerate their development. It was the platform for much of the development projects in many Asian countries and Japan after World War II.

But Lewis (1967) argues that "planning" is a "misleading word, since it suggests that the government can make people do what it wants." (p.35) He rejects the impetus for planning in developing countries and argues that the Communist economies did not grow because they were planned but because they had surplus capital to invest. For instance, the "Soviet government was taking in 1937 about 37% of the national income, and after spending 6% on defence and 12 percent on other recurrent expenditure had a surplus of around 19 percent of the national income to invest in fixed capital formation." (Ibid., p.36) The purpose of development planning, particularly in a mixed economy, is essentially three-fold: to help the government to pursue polices which encourage private individuals to make decisions which favour growth – to invest more, plant more, use fertilizers, undergo training, change jobs, etc.; to determine priorities for its own expenditures on current and capital account, including investments in government enterprises; to help ensure that adequate finance is mobilized for private and public investment.[10]

A Plan's most important part is therefore not its

> macroeconomic projections, or its output targets, or its list of government projects; it is the part of the Plan which shows how the government proposes to raise the money and to recruit the personnel to carry out its objectives. Given the low level of private saving in poor countries, and the low ceiling of foreign aid, *a government's most important planning measure is to raise a large budget surplus.* A Plan without a large budget surplus will get nowhere; whereas a large budget surplus can work wonders even without a Plan.[11]

There are three types of planning: the Marxist type (imperative planning) common in the former Soviet Union, the Communist countries of Eastern Europe and China; the French system of indicative planning; and forecast planning found in Scandinavia. In the first model, "instructions are given from higher to lower hierarchies. The reconciliation of the instructions and requests brings forward material balances which tend to be more and more difficult to manage." (Okigbo, 1989:151) In the French system, "plans are not strictly binding on the society" and there is full participation of the private sector. And in forecast planning the state informs the public of its intentions and its views on how the economy should go, as well as its expectations, policies and actions. As in the French system, the private sector fully participates in this model of national economic planning.

---

[10] Lewis, W. Arthur, *Reflections on Nigeria's Economic Growth.* (Development Centre of the Organization for Economic Co-operation and Development, 1967), p.35
[11] Ibid., p.36

Colonial development: A colonial administration, by definition, promotes the interests and welfare of the metropolis rather than those of the colonized people. Whatever benefits accrue from colonial programs to the colonized are unintended spill over that cannot be avoided unless through "outright plunder." (Okigbo, 1989:8)[12] The British were therefore interested in harnessing and exploiting Nigeria's resources and any development projects – such as railway – were set up only with this objective. Any positive effects to the people were accidental fallouts. Accordingly,

> until the outbreak of the Second World War in 1939, and right through to its terminal stages in 1944 … the essence of the Nigerian economy was that of a dependent colonial economy – an outpost surrogate of the British economy. The state of the British economy was automatically reflected in the Nigerian economy; for example, the great depression of the 1930s witnessed a great fall in the producer prices of Nigeria's agricultural products in the British market; and this was reflected in a dismal fall in Nigeria's income and wealth. (Yesufu, 1996:54)

The British colonial administration in Nigeria – between 1900 and 1945 concentrated in fulfilling two of Adam Smith's duties of a sovereign – provision of internal justice, and protection from external aggression – without concerning itself with the last duty: undertaking of social works – income distribution, employment and stabilization. Inter-personal and spatial income distribution or employment was not concerns of the colonial administration since its priority was not to develop the colonial territory for its own sake. Colonial administrators conceived of the role of the public sector in terms of programs that would facilitate the "exploitation of the resources for the benefit of the metropolis."

---

[12] It could also be argued that there was no difference between colonialism and "outright plunder" as colonialism was inherently a plunder of a people and their resources.

(Okigbo, 1989: 8) Issues of welfare or development of the colonial territory for its own sake were considered only "primarily in the context of policies designed to enable the dependent territory to bear the cost of its own administration, thereby reducing the cost to the taxpayer in the metropolis of paying grants-in-aid." (Ibid.) In line with this objective – to facilitate the extraction of resources in the territory – the colonial administration in Nigeria embarked on a two-phase economic development program between 1900 and 1945.

In the first phase, 1900-1919, priorities were on the development of a transport network – ocean transport (between the metropolis and the colony and protectorate) and rail transport "for the development and exploitation of the agricultural and mineral resources in the hinterland." (Okigbo, 1989: 9; Williams, 1976: 18) Thus the Nigerian rail network, which has not changed much since colonial times, connected centres of agricultural produce and mining activities from the hinterland to the coast in the southwest. During the second phase of the program, controls on exports and imports were introduced and the production of local substitutions for goods previously imported was promoted. This was not an attempt to make Nigeria self-sufficient for the sake of the people. Rather, it was a reaction to the depressed global economy brought about by the Second World War in a climate where most countries were yet to recover from the Great Depression of the 1930s.

At the end of the Second World War, with a new global emphasis on welfarism, the British Parliament under the newly elected Labour Party approved £200 million "'for the economic and social advancement' of its colonies; and at the request of the Colonial Office, the Nigerian Government formulated the country's first ever development plan which has as a specific objective, the welfare of its citizens." (Yesufu, 1996:54; Rimmer, 1981) This was the beginning of planned development in Nigeria, which continued till 1992 with several national development plans – many of which were filled with more sloganeering than any real strategy for economic development (according to critics such as Yesufu, 1996).

A model of development plan for Nigeria: In preparing Nigeria's first economic development plan, the bureaucrats at the time contemplated the various models. Both the French and Soviet systems of planning required enormous skills and resources in data gathering and the Indian style (which provided a model for many developing countries) demanded a high degree of "discipline," according to Okigbo (1989) who argues that Nigeria was lacking in these areas. It therefore adopted a middle position that required merely setting out a program of public expenditure and accompanying policies of the economy. This model called for a

> mixed economy in which the government plans for its programmes of capital expenditures in the short and medium term and seeks to regulate, manipulate and control the private sector … Over time, the government entered fields usually considered appropriate for private sector activity. The extension of the public domain in the past twenty-five years has made the private sector considerably less autonomous in its decision making. (Okigbo: 1989:151)

The Nigerian model called for a greater participation of the private sector but in the early years of independence this sector was largely invisible in Nigeria's economy – still operating as a colonial and dependent economy with the goals of producing and exporting raw materials to the factories of the colonial metropolis. Jarmon (1988) points out that in 1962 and 1963, for instance,

> the private sector contributed only 3.7 percent to the net domestic product. Under the conditions of the colonial order, indigenous merchants were only a marginal element in the new market arrangement and lacked ownership and control over the wealth being created in this sector. The lack of accumulated wealth in the hands of an indigenous merchant class was an obstacle to internal development.[13]

While the program of development in Nigeria's 1900-1919 Plan can be said to be a national economic planning, it was not until 1946 that the country formally had a national economic plan with the Ten-Year Plan for Development and Welfare. This was followed by what was considered as the first real "national" economic planning, the 1962-1968 Plan, extended to 1970 because of the Civil War. There have been five national development plans in Nigeria since 1970. Each of these will be discussed in turn.

3:3:1 Ten-Year Plan of Development and Welfare for Nigeria, 1946-56

Objectives: The 1946 Ten-Year Plan was, in lots of ways, the first long-term development plan in Nigeria, and definitely the first to incorporate the welfare of the colonial people. The Plan was enabled by funds approved by the British Parliament for the development of the colonies. The prevailing view at the time was that the

---

[13] Jarmon, Charles, *Nigeria: Reorganization and Development Since the Mid-Twentieth Century.* (Lieden, The Netherlands: E.J. Brill, 1988), p.23

"responsibilities of the state toward its dependencies must be similar to those accepted at home … and the thinking … indicated the more fundamental elements in standards of living as targets. Hence the primary objectives of the first Nigerian plan were better water supplies, nutrition and health." (Rimmer, 1981:33) The Plan also stressed education, transport and communications. (Dean, 1972:11) The uneven progress of Nigeria, further worsened by the retrenchment polices of the 1930s following the worldwide recession made it imperative that "physical facilities regarded as the minimum necessary for the general improvement of the country and its population" and reduction in rural urban migration should be provided (Okigbo, 1989:20)

Criticisms: The Plan was primarily aimed at improving the general health and mental condition of the people, and did not include any attempt at general industrial development or intention that developments in these areas would contribute to macro-economic output. In fact, the Plan openly stated: "It is not assumed, however, that Nigeria will become an industrial country as with its large population and area a great deal of its future must rest in agricultural development in its widest sense, and the improvement of village industries." (Objectives of the plan quoted in Okigbo, 1989:21) As Okigbo points out, the colonial officials who wrote the plan did not see Nigeria as "a potentially great country from an economic point of view, but (saw the country) as that of very happy peasants who drew their sustenance mostly from agricultural and pastoral pursuits, leaving the tedious task of manufacturing to the mother country." (p.20) There is a sense therefore in which the colonial administration saw development consisting of just the essentials –

developing communications through feeder roads from the agricultural centres to the towns, and improving health and sanitary conditions in the rural areas – to facilitate colonial exploitation of resources. The strategy for achieving these objectives included the building of roads, improvement in rural and urban water supplies, telecommunications, health and agriculture (including livestock, fisheries and forestry).

Again, in setting the targets for achieving Plan goals, it was clear that the colonial administration was not interested in overall macro-economic growth. For instance, in 1945, the total trunk telephone mileage in Nigeria was 7248 miles. The Plan compared this to Scotland's 74,370 miles (in 1925, rising to 296,623 miles in 1938) and the United Kingdom's 769,621 miles in 1925 (rising to 3,763,064 in 1938). While the document acknowledged these vast differences, there was no plan to significantly raise the mileage in Nigeria, proposing only to "establish 2500 miles of new route, 2300 miles of new wire on existing routes and 1000 miles of reconstruction in the seven zones into which the country had been subdivided." (Okigbo, 1989:25) The disinterested attitude toward any real development in the country was again indicated in the health sector where the colonial administration planed to provide only one hospital bed for every 2000 people as against one per 250 in the UK (excluding private facilities and specialist hospitals).

Yesufu (1996) argues that, among other things, the Plan suffered from lack of coordination. It was essentially five different plans by the four regional governments – the Western, Northern, Eastern Regions and Cameroon (then still part of Nigeria) – and the federal government. With no attempt to harmonize the goals and strategies of the different regional plans, the Plan was a disorganized document depicting "more duplication and competition than cooperation" among the different regions and the federal government, with all the regions controlled by rival parties. (Yesufu, 1996:55)

3:3:2 Post-independence national development plan, 1962-68

Objectives: This plan was considered truly national for two main reasons. First, it was the first Plan in post-independence Nigeria. And second, it had a higher level of participation by Nigerians than the previous plan. Its objectives included the achievement and maintenance of "the highest possible rate of increase in the standard of living and the creation of the necessary conditions … including public support and awareness that will be required." (Okigbo, 1989:41) It prioritized agriculture, industries and manpower development. It also aimed at pursuing development goals, conceptualizing development in similar terms as the previous plan to be the: provision of water, clinics and health facilities, roads (particularly rural feeder roads) and schools (particularly primary and secondary schools). The Plan stressed food production though its main focus was on production of export crops.

It adopted a pragmatic and practical approach to development. And pragmatism "in the field of politics emphasised freedom and justice. In social terms, these attributes were translated into distribution not of personal income but of amenities."(Okigbo, 1989:44) Emphasis was thus placed on the provision of amenities to the rural areas and standard of living measured visually by their presence or absence. This continues to be the case in Nigeria where location of "amenities" or "industries" has remained a highly politicized matter. Hence no thought was given to the cost of locating the second oil refinery in Nigeria in Kaduna in the non-oil producing Northern part of the country to which crude oil is piped for hundreds of kilometres from the Niger-Delta region (in the south) for processing. The location is irrational in economic terms but politically pragmatic. Even during the Plan period, the choice of where to site the first iron and ore industry in the country was the subject of intense political debates and wrangling among the regional and federal governments.

Criticisms of the plan: The Plan certainly had a higher level of participation by Nigerians than the previous one. However with few Nigerian bureaucrats at the top echelons of the civil service, there was still a lot of colonial participation in the preparation and implementation of the plan, with many of the planners being Americans and Britons working under the auspices of the Ford Foundation. Also, the Plan was not national enough because the central government devolved too much power to the regional governments. The result was that the Plan was "national"

> only in the sense that its project list related to locations around the whole country. The FG did not attempt to take Nigeria as its province, and for example, impose in agriculture, a geographic or ecological specialization in line with the characteristics, soils, ecology and culture. Nor was the FG strong enough to discourage a regional government from embarking on a scheme that, in its own opinion, the particular region was not suited for. (Okigbo, 1989:38)

The national coverage of the plan was therefore "patchy (and) and not uniformly national and the authority or imprint of the FG on the Plan was not unmistakably 'national' in tone or substance." (Ibid.) As well, the Plan was "disparate, uncoordinated and inherently conflicting" in the "development policies and strategies between the nascent Regions, on the one hand, and, on the other, between them and the Federal Government of the time." (Yesufu, 1996:60)

Furthermore, the Plan failed to integrate the role of or acknowledge the participation of the private sector in a national economy – except by reference to revenue contributions from the private sector. It was "confined to the public sector and made no attempt whatever to indicate what the private sector was expected to achieve, except by residual target in aggregate payment." (Ibid.) While different private-sector organizations were consulted occasionally during the preparation of the document, there was no organized forum for the sector to "air its aspirations, except by means of periodic delegations to the minister concerned." (Okigbo, 1989:39) There was also no feedback from the grassroots – especially farming communities – with the Plan adopting a top-down approach.

More significantly, the Plan was neither rigorous nor articulate mostly because it was formulated without sufficient facts. (Dean, 1972:29) The lack of "statistical and other basic information normally required"[14] for preparing a development plan was to be the basis of a book by Stolper, the economist who headed Nigeria's Economic Planning Unit

---

[14] Adebo, Simeon, "Foreword" in Stolper, Wolfgang F., *Planning Without Facts: Lessons in Resource Allocation From Nigeria's Development.* (Cambridge, Massachusetts: Harvard University Press, 1966), p.xii

(under the auspices of the Ford Foundation) in the Federal Ministry of Economic Development that prepared the 1962-1968 National Development Plan.[15] And from the perspective of promoting industrialization, the "planning machinery was not equipped to deal adequately with detailed industrial planning as distinct from broad economic planning." (Onyemelukwe, 1966:12)

3:3:3 Second National Development Plan, 1970-74

Objectives: The first Plan after the Nigerian Civil War, 1967-1970, the Second National Development Plan accordingly focused on reconstruction. The government's aim, through the Plan, was to build a "united, strong and self-reliant nation, a great and dynamic economy, a just and egalitarian society, a land of bright and full opportunities for all citizens, and a free and democratic society." (Okigbo, 1989:79) It emphasised the creation and growth of resources as a way of solving the problem of inequality, much of which was cited as one of the causes of the Civil War. This Plan, like the ones before it, also stressed the welfare of the individual through equitable distribution of resources. It reaffirmed the priority areas set out in the 1962-68 Plan: agriculture, industry and the development of high-level and intermediate-level manpower. Its centrepiece was indigenisation of businesses through the promulgation in 1972 of the Nigerian Enterprises Promotion Decree (also known as the indigenisation decree) which "brought a measure of indigenous control over the private sector" (Jarmon, 1988:24) The decree reserved specific economic opportunities for Nigerians and required Nigerian participation in firms engaged in a wide range of other activities. (Williams, 1976:47) The Plan, executed in the oil boom era, was more successful than any other plan before or after that. Its most significant achievement was in the education sector. Primary school enrolment rose by 28.6% from 3.5 million in 1970 to 4.5 million in 1973, an average annual growth rate of 9%.

---

[15] Stolper, Wolfgang F., *Planning Without Facts: Lessons in Resource Allocation From Nigeria's Development.* (Cambridge, Massachusetts: Harvard University Press, 1966)

> Secondary enrolment also virtually doubled from 343,000 in 1970-71 to about 649,000 in 1973-74. Compared with a national population growth rate of 2.6%-3%, this represented a positive gain. But the average growth of education investment over the same period, 1970-75 was 6.8%. This suggests a fall in the quality of the education available to the increased pupil enrolment.[16]

Criticisms: In his analysis, Okigbo (1989) argues that the formulators of the Plan acted as if the Civil War had not happened by ignoring the creative innovations of the people of Biafra.[17] It therefore failed to tap into their potential to contribute to industrialization. Also,

> the objectives of the 1970-74 Plan were, as would be expected, general in tone and content. It would have been difficult for the planners to say of a particular policy that it did not contribute to making Nigeria a 'great and dynamic economy.' No form or content had been given to what would constitute greatness or what would be regarded as dynamic. There was no way to measure or assess whether the claim of a particular policy was valid with respect to making Nigeria great and dynamic." (p.80)

The Plan was later revised to raise government investments because of the unexpected flow of revenue from petroleum. However the petro-dollar created its own problems. For instance, two major policy instruments of the plan were the stabilization of prices and the reduction of inequalities of income distribution. But the increased revenue prompted government to raise wages, unintentionally shooting up the rates of inflation to two digits. A liberalization of imports "which created unfavourable competition to domestic producers" further exacerbated the inequalities in distribution, a major objective of the Plan. (Okigbo, 1989: 99) The "substantial increases in wages and salaries paid retrospectively to employees … and excess liquidity in the financial system led to a jump of 12.6 percent in the price index …" (Ibid) and contradicted earlier efforts to control the price of consumer products through the Price Control Board and restrictions on importation of consumer products.

---

[16] Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development*. (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996) p.70

[17] This refers to the technologies of warfare which the Biafrans developed to fight a war in which they were clearly outmatched in terms of manpower and arms. But their innovativeness and resourcefulness made up for their lack in other areas.

3:3:4 The Third National Development Plan, 1975-80

Objectives: The Plan reaffirmed the objectives of the second plan, but added more of its own. These included: an increase in per capita income, a more even distribution of income, a reduction in the level of unemployment, balanced (geographically dispersed) development and an increase in the supply of high-level manpower (stress on education). Others were a diversification of the economy, balanced development, and indigenisation of economic activity.

The Plan included for the first time, a deliberate effort at developing Nigeria's communications infrastructure. About 5.1% of annual budgets during the Plan period was allocated to the telecommunications sector. This represented ₦1.338 billion over the five years of the Plan period. As at 1974/75, Nigeria had one phone per 667 inhabitants and one postal service for 42,000 people. This represented an increase from 70,000 to 109,000 telephone lines during the Second Development Plan, 1970-74 (14% per annum). A ten-fold increase in targets was set for the 1975-1980 Plan such that at the end of the period the number of exchange lines would rise from 52,000 to 500,000, and telephone lines from 109,000 to 1,000,000. The number of telex lines was expected to go up from 594 to 6200. Also, there was a proposal for "219 new radio and line carrier routes, expansion of microwave radio system, coaxial cable transmission between Lagos and state capitals, additional power plants as standby power for the exchanges and transmission terminal stations; high-frequency radio links between Lagos and state capitals." (Okigbo, 1989:122)

The assumption was that with the provision of the funds allocated to the sector, the targets would be easily met. "However, since practically every item would have had to be imported and then installed by resident companies, the importance of bulk handling and port facilities could not be neglected. On paper, therefore, the targets expressed the yearnings of the people rather than practical reality." (Ibid., p.123) In the end, the targets were not met though there was a significant increase in Nigeria's teledensity during this period.

Generally, the main strategy for achieving the goals of the Third National Development Plan was to utilize oil revenues in the development of the productive capacity of the economy, control inflation and assure a more equitable distribution of incomes. As 70%

of Nigerians at the time lived in the rural areas, the Plan prioritized programs and projects that would directly benefit the rural population and reduce the income gap between them and urban dwellers. Such projects included the importation of consumer items through the government-owned National Supply Company (and sold to the public at reduced prices), payment of high prices for farm produce by the marketing boards, subsidies on agricultural inputs – such as chemicals, fertilizers and seeds – price control on consumer items, rent control and "a wage freeze while improving the remuneration of lower grade wage earners," investment in education, support for small-scale enterprises and use of local materials, labour and skills. (Ibid. p.106)

Criticisms: While these programs were executed with good intentions, they only succeeded in widening the gap between the poor and rich, especially between urban and rural populations. Usually, the major recipients of the welfare programs embedded in the Plan were the middle class and higher-income groups. In the colonial days, the marketing boards were used to subsidize the British consumer, and to shore up the reserves and balance of payments of the sterling bloc. In neo-colonial Nigeria, indigenous rulers used the marketing boards to finance party political activities and enrich themselves. They also represented

> a new form of exploitation of the surplus value of peasant labour, and increased the rate of exploitation, to a point where the continued production and marketing of agricultural crops came to be threatened. The price of export crops came to be determined by political decisions rather than through the impersonal operations of the market. (Williams, 1976: 34)

As Lipton (1976) and Bates (1988) have also argued, programs aimed at re-distributing wealth by raising income through subsidies on agricultural inputs always had an inherent urban bias. In many cases, those who benefited from these subsidies were the wealthy, large-scale urban farmers, or some middlemen, who then re-sold the products at huge profits to the poor and small-scale rural farmer. And in controlling the prices at which farm products were sold to the marketing boards, the Nigeria government – as well as many African governments – only succeeded in making farm production an expensive and unprofitable activity. This then exacerbated the problem of rural-urban migration and increased dependence on imported food products.

The importation of consumer items, as Okigbo points out, also discouraged local production, thus defeating government's intentions to make the country a self-reliant nation able to feed its populations.

> It should have been foreseen that the policy on liberalization of imports and of massive importation of so-called 'essential commodities' was bound to have a debilitating effect on agricultural production. Secondly, by placing emphasis on consumer imports, the effect on the finance of capital investment was to reduce the scope of capital formation below the level suggested by the growth of income. For the relaxation of import restrictions, together with the acknowledged excess liquidity in the financial system were bound to lead to an explosion of import demand for consumer goods. (Okigbo, 1989:106)

3:3:5 The Fourth National Development Plan, 1981-1985

Objectives: The Fourth National Development Plan coincided with the return of civilian administration in the country (1979) and overlapped with the resurgence of military regimes (1983). It was buffeted, *ab initio*, by both the political crisis in the country (a military coup and change in leadership and regime structure) and declining prices of petroleum products, the major source of Nigeria's foreign exchange earnings (which financed imports as well as domestic expenditures). The 1980s are usually referred to as the "lost decade" for developing countries. It was even more so for Nigeria, rudely awaken from the oil-generated wealth of the 1970s to the oil bust, debts, stagnated economy and military dictatorships. But the fourth development plan started off with the same optimism that attended previous plans particularly as it announced a continuation of the Third Plan, with a few additions: greater self reliance, development of technology, increased productivity, reduction in rural-urban migration, promotion of a new national orientation conducive to greater discipline, better attitude to work and cleaner environment. The Plan re-defined the concept of development to mean the "development of man – the realization of his creative potential, enabling him to improve his material conditions of living through the use of resources available to him." (Okigbo, 1989:134-135) It was anchored on three main objectives: economic growth and development, price stability and social equity. The machineries to achieve them were fiscal policy, monetary policy and incomes policy. (Yesufu, 1996:78)

Criticisms: In the five years of the Plan, the country recorded negative growth rates per annum. (Okigbo, 1989:147) It failed to achieve its main objective of stabilizing prices as declining per capita gross domestic products and inflation "resulted in rocketing consumer prices." (Yesufu, 1996:85) To add to the declining income levels,

> the cost of living was simultaneously escalating very fast. Food prices rose by an average of 54.9 % per annum; the lowest rate of increase of 12.2% per annum was

> recorded with respect to accommodation partly because of the rigidity and the difficulty of getting tenants to agree easily to rent increases. The composite consumer index rose by 95.5 % over the period 1981-1985, thus recording an average yearly increase of 23.8%. The intention of the Fourth Plan to have stable consumer prices thus transformed into a blinding illusion … the fourth development plan period … was characterized by increased pauperization of the average citizen.[18]

The rise of oil revenue had led to neglect in agriculture, previously the bastion of the Nigerian economy. (Olaloku, 1979; Uwadibie, 2000) For instance, in the 1960-65 period, agriculture contributed 58% to the GDP, 81% to exports in 1960, and by 1977 this had fallen drastically. When the portion of oil activities was excluded to adjust for the rise in the petroleum sector, there was still a drop in agriculture to 36% in 1977, and the sector contributed only six percent of Nigeria's export receipts in 1977. (Zartman, 1983: 15)

3:3:6 The Structural Adjustment Program Years, 1986-1988

There was a three-year gap between the fourth and fifth development plans for several reasons. The most obvious was the military coup of 1985 and another change in political leadership. Second, the economy had stagnated so much that when the Babangida Administration came in, it took time to decide on the best path to economic recovery, eventually choosing Structural Adjustment Program (SAP), as prescribed by the International Monetary Fund – suggested initially as a quick fix to revive Nigeria's economy. There is vast literature on SAP in the context of developing countries generally and particularly in Nigeria. (For examples, Anunobi, 1992; Haggard and Kaufman, 1992;

---

[18] Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996) p.85

Ihonvbere, 1994.) Consideration of the issues surrounding the implementation of SAP provides a backdrop to understand the context to the objectives of the fifth national development plan.

The military government that emerged during the Nigerian Civil War remained until 1975 when another military coup toppled it. The head of the new regime, Murtala Mohammed, a major general, was himself assassinated in 1976, but his administration was continued and completed three years later by Obasanjo, the current democratically elected president in Nigeria. In October 1979, Nigeria's Second Republic began with Shehu Shagari as the president. On December 31, 1983, Shagari's three-month old second term was terminated with yet another military coup, this time headed by an army general, Muhammadu Buhari and his colleague, Tunde Idiagbon, an army colonel. They justified their entrance into politics by pointing to the corruption of the politicians and the subsequent economic state of the country. The reasons resonated well with many Nigerians who had become disillusioned with democracy mostly because of the corruption and insensitivity of the civilian administration. Trade unions, students and journalists actively called for the intervention of the military at this time. Ray Ekpu, a well-read columnist and co-founder of one of Nigeria's foremost news magazine, *Newswatch,* is still remembered for his 1983 "Clarion Call to Arms" series in the *Sunday Concord* newspaper. He was merely re-echoing the yearnings and prayers of many Nigerians for a change. The military intervention was therefore welcomed by many as the answer to their prayers.

The Second Republic: The four years of the Second Republic coincided with the oil bust – when the prices of oil (Nigeria's major export since the 1970s) – plummeted in the world market. And the corruption of the politicians did not do anything to improve the situation. The Nigerian economy during the Shagari years (and right up to 1985) was characterized by all kinds of corruption, misappropriation of public funds, capital flight, inflated contracts, ghost workers[19] and general financial indiscipline. Public officials appropriated public money and resources as their personal entitlements, acquired private property abroad with public funds and led lives of appalling wasteful consumption, especially of imported consumer items, thus crippling local industries. The politicians' vulgar opulence thrived side by side with abject pauperization of the majority of Nigerians, with the elected officials seemingly unaware of the suffering of the people. A federal minister, whose ministry was responsible for the importation of rice, was quoted in many newspapers as telling journalists that it was not true that Nigerians were starving as he had not yet seen anybody eating from the dustbin.

Yesufu (1996) describes the picture of the Nigerian economy during the Shagari years:

> The canker-worms of corruption and gross opportunistic exploitation of the government's weaknesses by associated politicians and influential untouchables, had eaten deep into the economic fabric. Financial misappropriation in the public sector, and concerted misuses of import licences and overloading of invoices,

---

[19] This refers to the situation where wages in the civil service are paid out to workers who do not exist. Some civil servants would prepare the payroll such that names of non-existent people are included as staff and actual workers would sign for and collect the salaries of these "ghost workers." The situation was very common during the Shagari years and abated when the Buhari Administration insisted that people should physically identify themselves before they could receive their pay cheque. This created its own problems, namely long queues at the banks and delays in civil servants getting their salaries at the end of the month.

> between many Nigerian business men and their overseas counterparts; the gross abuses and misuses of import and export tariffs at many customs points; fraudulent money transfers overseas, aided and abetted by many banking officials from the branch manager right up to the Central Bank.[20]

Due to the scarcity of foreign exchange, a new market in import licences soon emerged. People with connections to power would apply for and receive import licences ostensibly for the importation of raw materials for local factories. An import licence facilitated access to foreign exchange at the Central Bank of Nigeria – at the official exchange rates. Those who used their political connections to obtain the license would re-sell at exorbitant prices to actual manufacturers who desperately needed the licences and the foreign currency to procure raw materials for their factories. This was an era of influence peddling and name-dropping and people became instant millionaires just by being associated (closely or remotely) to those in power.

But the Nigerian economic crisis started before the Shagari Administration, beginning during the military regime of General Yakubu Gowon (1966-1975) continuing into Obasanjo's first administration. During the oil boom years, Nigerians had become "intoxicated with the power of wealth." (Okigbo, 1989:174) Gowon is the head of state referred to at the beginning of this chapter who is often quoted as saying during the oil boom years that Nigeria's problem was not with money but how to spend it. And spent it, Nigerians did, mostly on consumer items – such as "imported champagne and lace."[21]

---

[20] Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996) p.89

[21] Zartman, I. William with Sayre Schatz, "Introduction" in I. William Zartman, ed., *The Political Economy of Nigeria.*(New York, New York: Praeger, 1983), p.12

When the petro-dollars began to dwindle, Obasanjo in 1977 "decided to impose some draconian measures to curb private expenditure" (Okigbo, 1989:174) though as Zartman shows, the levels of private consumption did not rise (relative to the GDP) as much as government's did during the period. For instance, private consumption was just 58% of the GDP (between 1970 and 1977), down from 82% in the 1960s. However, government consumption, that is (government expenditures for purposes other than capital formation) grew at an annual rate of "10.6 percent during the 1950s and 6.4 percent during the pre-civil war 1960s. Then after the first big oil price increases, it soared, tripling (to 29.7 percent) in the four years from 1973 to 1977. As a result of the growth in the rate of increase, the proportion of GDP devoted to government consumption also grew significantly." (Zartman, 1983:13) In any case, it was private consumption habits that came under Obasanjo's stringent measures.

To further compound the financial crises, the government, in order to

> sustain its previous and current commitments ... borrowed massively from abroad. The Obasanjo regime did the right thing in 1977/78 in seeking to borrow abroad; but it did the wrong thing in borrowing so massively not from official or multi-lateral (World Bank, etc.) sources but from private international financial markets. The practice was continued and extended by the succeeding civilian administration of President Shagari. The consequence of this egregious error did not come to roost until 1982-83. (Okigbo, 1989:174)

Added to the debt crisis carried over from the previous government, the plummeting oil prices and the declining prices of commodities in the global market, the Shagari Administration also had to deal with internal problems. Inflation rose to unmanageable levels with sky-rocketing food prices. There was also a high level of unemployment, with more than 60% of secondary school graduates unemployed (Okigbo, 1989). The corruption of the politicians in the Shagari Administration and the visible opulence of this class in the midst of such scarcity prepared the stage for the military to return to politics in Nigeria.

The Buhari Administration: The duo of Buhari and Idiagbon came in and tried to tackle the crisis through stiff austerity measures. They began by attempting to inculcate social discipline and good work ethic in Nigerians through such programs as War Against Indiscipline (WAI). The rising prices of food were tackled through price control measures and sale of "essential commodities" to the people at government supply stores.[22] Between 1984 and 1985, the economy recovered slightly. For instance, the GDP per capita in 1985 was ₦908, up from ₦852 for each of the previous two years. The government made debt repayment a major issue with a significant percentage of the country's foreign exchange earnings allocated to this area. It considered the proposals for economic recovery offered by the International Monetary Fund (IMF) but rejected them in favour of seeking an alternative framework. This consisted mostly in exploring the possibilities of exchanging crude oil for essential imports (counter trade) with some willing South countries; as well as enforcing domestic financial discipline especially in reducing consumption and corruption.

---

[22] This measure did not really help because Nigerians with "connections" to secure allocations of the commodities at official prices opened up "supermarkets" through which they re-sold the items to the public at exorbitant prices. Often, they would hoard the items to create an artificial scarcity that would further increase the cost of the items to the public.

But it was not long before Nigerians got tired of "all that indiscipline" particularly when the media began to report about contradictions between the speeches and intentions of policymakers and their actions. For instance, in the infamous "Suitcases Incident," some religious leaders from Sokoto (Buhari's home state) reportedly brought several suitcases filled with cash into the country. This followed the change in currency in 1984 aimed at stamping out "corruption, counterfeit currency, and the black market by neutralizing money held outside the country and forcing hoarders to account for their cash." (Forrest, 1995:99) To achieve the objective, "individuals were allowed to exchange only a maximum of ₦5,000 in the bank unless they swore an affidavit on how they acquired the excess." (Ibid.)

Someone (or a group of persons) with lots of externally hoarded cash in the Nigerian currency about to be phased out brought the money into the country to exchange for the new notes. Nigerians expected that the money would be seized and the alleged offenders arraigned before the appropriate military tribunal. The matter was, instead, hushed up because, apparently, the man behind the suitcases was an Emir (an Islamic religious and political leader) and therefore politically untouchable. There were similar cases of inconsistencies – such as when the second-in-command, now-General Idiagbon, went to Saudi Arabia (on a pilgrimage) with his son (paid for by the state) after the government had said they would no longer finance such religious trips. But beyond these contradictions between words and actions, the repressive nature of the regime, which used decrees to clamp down on press freedom and personal and political liberties, was enough to signal the beginning of its end. Most notable of these decrees were Decrees 2 and 4 of 1984. The first bypassed the legal process of *habeas corpus* by legalizing the indefinite detention of persons without trial while the second made it criminal for journalists to write any story considered a falsehood or one that could embarrass a federal government or public officials. And the military government determined what was embarrassing and false in a news story. This turned on its head the dictum in journalism that "facts are sacred." Under this decree, facts – and truth – were not factors in determining guilt or innocence.

In the end, the administration's "ethical campaign embodied in the War Against Indiscipline (WAI); counter trade with Brazil, Malaysia, Austria and Italy involving the battering of Nigerian oil for essential imports; and the repression of all opposition, especially intellectuals, students, and workers, alienated the regime from the populace." (Ihonvbere, 1994:118) It was not long therefore before Nigerians began to get restless for another change. And this came in August 1985 in the form of another military coup that ushered in the eight-year administration of Ibrahim Babangida. This administration was more willing – and some would say, eager – to accept the IMF's economic prescription for Nigeria's ailing economy rejected by the Buhari government.

The Babangida Years and the Structural Adjustment Program: One of the first items on the agenda of the Babangida administration was the revival of the national economy. By the time Babangida came in, the economy was virtually in shambles despite the spirited efforts of Buhari and Idiagbon to introduce some fiscal discipline. The Babangida Administration considered the prospects of taking an IMF-guaranteed loan and introducing the attendant structural adjustment program – a package that had been rejected by the Buhari Administration in favour of alternative measures such as counter trade. But in a tactical move to gain popularity and thus legitimize his authority, Babangida decided to refer the matter to the people. However the questions raised in the debate were structured such that the emphasis was on national pride, rather than on the more fundamental economic issues of currency devaluation and the extent to which it would be executed. The infringement on national sovereignty was paramount in the minds of the people as they engaged in the "IMF Debate." As Yesufu (1996) notes, a genuine attempt to arrive at an informed decision would have involved consultation with those who really understood the economic issues at stake, and not thrown to people most of whom were hearing about the IMF for the first time during the debate and probably did not understand what devaluation of the currency implied.

The questions were also framed such that what was clear to the people was that they were willing to make the sacrifices on their own terms rather than be further indebted to foreigners. And as Forrest (1995:210) points out, the debate centred "on the issue of the loan and not on the policy conditionalities involved in an IMF package or the wider questions of economic strategy." And thus structured, the IMF debate already had a predetermined response by Nigerians the majority of whom said they did not want the loan but would make the sacrifices toward the recovery of their national economy.[23] The Left particularly rejected the loan because of the

> widespread feeling that additional foreign loans were not the answer to Nigeria's economic problems. It was felt that Nigeria's rulers should not again be given the opportunity to mismanage and waste resources on a grand scale. If the loan was taken, it would only be used to perpetuate the corrupt practices of the past and to service debts of doubtful validity.[24]

The sacrifices that Nigerians signed on to were the infamous "IMF Conditionalities" and involved the devaluation of the Naira, rationalization of the civil service (retrenchment of workers), market liberalization especially to attract foreign investments, abolition of price controls, scrapping of the marketing boards and removal of subsidies on services and goods (such as petroleum products).

Prior to the adoption of the SAP conditionalities, on October 1, 1985 in his Independence speech, Babangida had announced a 15-month National Economic Recovery, and an economic package that "closely followed IMF and World Bank thinking." (Forrest, 1995:211) But it was not until July 1986 that the structural adjustment program was formally introduced though some of the conditionalities had already been quietly implemented. The SAP "marked a shift in economic policy towards a strategy that relied more on market forces and private enterprise to promote national accumulation." (Ibid., p.207) The objectives of the program included:

---

[23] In the end, the Babangida Administration did take the loan – without publicity – thus compounding the sacrifices of the people – US$4.2 billion over three years, ostensibly to fund the SAP. Besides, by the time the debate had been opened to the public, many of the conditionalities were already being implemented, or in the process of implementation. Babanginda only threw the matter to the public when he could not get the consensus of members of the Armed Forces Ruling Council on some thorny issues such as petroleum subsidy and currency devaluation.

[24] Forrest, Tom, *Politics and Economic Development in Nigeria – Updated Edition.* (Boulder, Colorado: WestviewPress, Inc., 1995), 211

- Restructuring and diversifying the economic base of the economy to reduce dependence on oil;
- Achieving a fiscal balance and reducing the balance of payments deficits in the medium term; and
- Laying the foundation for non-inflationary growth in the medium and long term.

The strategies for achieving these objectives were:

- raising the rate of utilization of existing installed capacity in agriculture and industry;
- accelerating food production and rural development and encouraging the use of local raw and intermediate materials;
- gearing fiscal and economic policy to growth through tax incentives and growth-oriented commercial policy and, by re-organizing the tariff, to make it less restrictive and more competitive;
- reforming the public service, gearing it to efficiency and through privatization and commercialization of government enterprises, where appropriate, to reduce the scope of government intervention;
- promoting job security by widening employment opportunities; and
- keeping external debt service to a limit of 30% of the export earnings.

The immediate effect of SAP was soaring prices of consumer items beginning only hours after the September 1986 devaluation of the Naira by 69%, closing at ₦5.06 to the US dollar at the end of the first auction at the Second Tier Foreign Exchange Market (SFEM).[25] The effect of the devaluation on the price of consumer items was drastic, and it was not only on non-essential items: food and transportation costs went up, literally overnight. Soon the cost of SAP[26] was more than the people had bargained for. For one thing, the structural adjustment package had been sold to Nigerians as a sharp but quick pain, "designed to rapidly and effectively transform the national economy over a period of 15 months and to end by June 1986." (Yesufu, 1996: 91) Three years later, in 1989, the people, especially in the South, took to the streets to protest the pains of SAP. Even the government had to admit that SAP had been harder than had been anticipated, but continued to justify its necessity (and its gains) in a Federal Ministry of Information publication.[27]

---

[25] By the summer of 2001 – 15 years later – the Naira was exchanging at 136 to the dollar in the unofficial currency exchange market.

[26] The cost of SAP was variously referred to in Nigeria as the "pains" or "grains" of SAP in response to government's frequent speeches about the "gains of SAP."

3:3:7 The Fifth National Development Plan, 1988-1992

Objectives: It was into this economic environment that the Fifth National Development Plan, 1988-92, was released. It basically affirmed the objectives of SAP. The philosophy of the Plan was to open the Nigerian economy to greater domestic and international competitiveness in order to create a free market for goods and services necessary for growth.

> The Fifth Plan dealt with short, medium and long term objectives which support the objectives of SAP – achieving fiscal balance and reducing the balance of payments deficits; laying the foundation for non-inflationary growth; restructuring and diversifying the economic base of the economy to reduce dependence on oil.[28]

The Plan stressed efficiency and equitable redistribution of resources targeting the gap between urban and rural dwellers, with policies aimed at addressing the conditions of the latter. A key instrument to achieve this goal was the creation of the Directorate for Food, Roads and Rural Infrastructures (DFRRI), which aimed primarily at creating infrastructures such as roads in the rural areas. It was understood that the problem of food scarcity, for instance, was not so much that of inadequate production but a problem of distribution and storage. Certain infrastructures such as roads and electricity were therefore needed to address this.

---

[27] Federal Ministry of Information, *30 Questions and Answers on SAP ... and the Gains of SAP.* (Lagos, 1989)

[28] Aka, Ebenezer, Jr., *Regional Disparities in Nigeria's Development: Lessons and Challenges for the 21st Century.* (Lanham, Maryland: University Press of America, 1999), p.35-36

But as has been widely argued, DFFRI only succeeded in opening up the rural areas – in the few places where the program succeeded – to exploitation by urban dwellers. For instance, in Lagos state, farmers and fisher folks from the surrounding rural areas and their produce were weekly transported to "Sunday markets" in metropolitan Lagos where urban dwellers bought at relatively cheap prices. The rationale was that everyone benefited: the rural dwellers (mostly women) found a market for their produce and made more profits than they would have if they had sold in their villages; the urban dwellers (also mostly women) benefited from access to cheap produce. And that way, everyone was happy. If this had eliminated the activities of middle persons, perhaps everyone would have been truly happy. As it was, not all rural farmers could be transported by the state to the cities to sell their produce. Market women from the cities, benefiting from the easy access to the rural areas (where feeder roads had been opened up) would go into the rural areas and buy agricultural items – such as vegetables, yams, snails and garri[29] – at very low prices and transport to city markets where they would re-sell the products at enormous profits. In the end, the middle persons (in this case market women from the city) gained more from the opening up of roads than the rural dweller who was still faced with the problem of storage and therefore had to yield to the enterprising and merciless (in terms of driving down prices) city woman.

---

[29] Garri is a staple food in many West African countries, and is made from cassava.

If small-scale producers of food crops did not significantly prosper during this period, the large-scale cash crop producer benefited immensely from the scrapping of the marketing boards – initiated in the early years of SAP. With easy access to the international market and removal of price controls, producers of export crops such as cocoa had to depend on the market forces of demand and supply to determine the prices of their products. From anecdotal accounts, the market was good to them. In southwestern Nigeria, where most of the cocoa in the country is produced, there emerged overnight rich men, and many of them celebrated their new wealth by marrying second or third wives and acquiring chieftaincy titles.

In harmony with the economic mood of the period, the Fifth Plan, unlike previous ones, stressed the role of the private sector particularly in its capacity to create employment opportunities through the combination of an integrated rural development program and the establishment of small and medium scale industries. (Okigbo, 1989:187) This was not surprising given that this was the age of SAP and external-oriented strategies of development. Market forces accordingly replaced administrative controls.

Criticisms: In reviewing the Plan (and the previous ones), Yesufu (1996) notes that it failed to meet its targets with many of the objectives sounding like slogans and efforts to "please every citizen and group that would be articulate enough to read the plan or to ask questions." (p.63) As Wright (1998) notes, the four plans before SAP proposed mixed development, combining strong government participation with private industry such that the role of the government was always critical. But they "failed to reach their ambitious goals, although certainly some limited gains were achieved."[30]

3:3:8 Post-Fifth National Development Plan

The Babangida Administration that midwifed the Fifth National Development Plan ended in chaos in August 1993. Two months earlier, it had annulled the results of the first presidential election in ten years, throwing the country into a political turmoil that arguably persists till today. In August, Babangida was forced to "step aside" and a transitional government, headed by a businessman, Ernest Shonekan, was appointed and tasked with organizing fresh presidential elections. In November, Sani Abacha, then the defence minister, announced Shonekan's "resignation." The decree that had set up the Interim National Government included the clause that in the event of the resignation of the head of the head of government, the defence minister would take over. And thus began the Abacha years which only ended with his death in June 1998. This period represents one of the most politically turbulent and repressive in peacetime post-independence Nigeria. At the economic front, while there was a National Economic Planning Commission – with a foremost economist, Sam Aluko, at the head, the Abacha administration did not pay much attention to economic planning. And it was not long before the commission was scrapped. "Abacha apparently did not have the intellectual readiness for such a joke."[31] Indeed the fifth national development plan – which, like the previous plans – did not achieve its targets before the expiration date remains the last national development plan in Nigeria. In place of a national development plan, the Abacha government introduced what it called Nigeria's Vision 2010.

---

[30] Wright, Stephen, *Nigeria: Struggle for Stability and Status.* (Westview Press, 1998), p.118

Abacha and Vision 2010: In September 1996, Abacha announced his Vision 2010 committee initially composed of 170 members but later expanded to 250. Shonekan, the man whom Abacha overthrew only three years earlier, chaired the Vision 2010 committee. The committee was asked to consider the best-suited economic development program for the country to follow. In Abacha's words, the committee was expected to "define for our nation its correct bearing and realistic sense of direction." (Cited in Wright, 1998:123). The committee was composed of government ministers, academics, journalists, traditional rulers, trade union leaders and foreign businessmen, and representatives from the private sector. Vision 2010 had four central prongs: democratization, liberalization, globalization and technology, and the committee's mandate included:

- To define for our country, its correct bearing and sense of economic, political, social and cultural direction;
- To set appropriate goals and targets and time frames for achieving our economic, political, social and cultural objectives and to propose the strategies and the institutional arrangements required to attain the set goals and targets;

---

[31] Titi Omo-Ettu, formerly of the Ministry of Communications and partially responsible for preparing the sector's inputs into previous development plans, in response to an e-mail question on why there was no national development plan during the Abacha years.

- To forge a plan which will ensure that Nigeria is en route by year 2010, to becoming a developed nation in terms of economic prosperity, political stability and social harmony;
- To propose a comprehensive plan for the country that will enable it to optimize its economic prospects and prepare it as a major economic power in the African region and the emerging market.

When the committee first met, they identified 13 critical factors under four broad categories:

> human capital (health, education, population); shared values (norms and standards, anti-corruption, openness, cooperation and managing diversity); governing systems (law and order, good and stable governance); global competitiveness (external environment; science, engineering and technology, competition, sustainable economic growth).[32]

The organization of the committee involved a rather complex process. First, out of the 250-membership, 13 groups were created to address each of these factors. And then 17 sub-committees were set up to "address a variety of economic issues relating to macroeconomic structure, development, the 'real sector' (encompassing agriculture, industry, trade, solid minerals, downstream and upstream petroleum) and funding/capital mobilization." (Ibid.) And then, 13 more subcommittees were expected to address 'third wave issues,' including public and private sector roles, mass communication, organizing and building support, legal reforms, privatization, pensions savings and social security, women, labour management and industrial relations, information systems and youth development. The Vision 2010 committee submitted its report in September 1997 after a series of meetings, conferences and consultations with members of the public. It recommended a "'large-scale deregulation of the Nigerian economy' (and) the release of political detainees and rigorous compliance with the transition program." (Ibid.)

---

[32] Annual reports of Nigeria by the Human Rights Watch: http://www.hrw.org/reports/1997/nigeria/Nigeria-08.htm#P529_132846 Most of the discussion in this section is drawn from the report.

> In his October 1, 1997 National Day address, Abacha promised to 'introduce the measures immediately required to begin the program's implementation in the firm belief that succeeding administrations will carry it to a successful conclusion with the support of all our people and friends of the nation.' (Ibid.)

There were doubts even among committee members that the Abacha government would implement any of the recommendations. The work of the committee was by itself criticized for focusing on agriculture and industry in an era when the rest of the developing world – namely the Asian Tigers and India – were developing and generating revenues from its information technology industries. For instance, a foremost Nigerian-born computer scientist, Philip Emeagwali, said at the time that Vision 2010 was modelled after Malaysia's Vision 2020, and yet it did not have the long-term goal that the Asian model had. Significantly, he argued, "Vision 2010's goal is for Nigeria to derive its entire wealth from agriculture and industry. Emeagwali concluded that Vision 2010 would make Nigerians "the hewers of wood and fetchers of water for those nations that have arrived in the Information Age."[33]

Other critics of Vision 2010 argued that given the political turmoil that surrounded the Abacha regime, it was impossible that the government would achieve any of the goals of Vision 2010 as its top priority was maintaining power to perpetuate the administration. Pursuit of political actors' political goals seemed immensely contradictory to the attainment of national economic goals. There is no indication that any of the committee's recommendations had been implemented before the end of the Administration less than a year later. In fact, political prisoners were not released until the transitional government of Abdulsalami Abubakar, June 1998 to May 1999.

---

[33] Emeagwali, Philip, "Can Nigeria Vault into the Information Age?" A paper prepared for delivery at the 1997 World Igbo Congress in New York. Available at http://www.emeagwali.org

3:4 Nigerian Economic Policy: 1999 to the present

After 15 years of military rule and political and economic turbulence, General Obasanjo again assumed political leadership of Nigeria – this time through the ballot box. Thus, Nigeria's Fourth Republic (and as many number of attempts at democratic governance) began on May 29, 1999.[34] In his inaugural speech, Obasanjo made only a passing reference to the economy but a year later on the anniversary of his administration, he had a lot to say about the state of the economy he had met.

> Let me ask you to cast your minds back to those queues at our fuel stations. The distress, the agony and the shame depicted in those queues was (sic) the clearest manifestation of the symptoms of decay in our society and deterioration of our system. And there were many of these symptoms: the economy was in shambles; poverty was pervasive in rural and urban areas of the country … We carried a heavy burden of international debt that seemed quite likely that most of our earnings would be committed merely to paying mostly doubtful debts, leaving us with little with which to address the legitimate needs of our people … There was economic mismanagement on a colossal scale with Naira perpetually unstable and diminishing in its purchasing power …[35]

The economy at the time was characterized by: declining capacity utilization in the real sector, poor performance of major infrastructural facilities, large budget deficit, rising level of unemployment and inflation, import dependence, reliance on a single commodity

---

[34] The Third Republic would have started from 1993 if the presidential elections of June that year had not been cancelled. This period is usually referred to as the "botched" or "failed" Third Republic.

[35] Obasanjo, Olusegun, "Nigeria on the Agenda: The Journey so far" – first anniversary speech, May 29, 2000. Available at http://www.nopa.net/Useful_Information/Presidential_Speeches/29may00.html

(oil), weak industrial base, low level of agricultural production, a weak private sector, high external debt overhang, inefficient public utilities, low quality of social services and high rate of unemployment. In December 1999, the seven-month old administration released a four-year national economy policy aimed at addressing these problems. The government did not call this program a national development plan, though it fits most of the characteristics for one – at least as defined by Okigbo earlier in this chapter. The 1999-2003 policy was guided by the following principles:

- The economy exists for and belongs to the people, and at all times the general well-being of all the people shall be the overriding objective of the government and the proper measure of performance.
- Given the state of the economy which is equivalent to national emergency, economic management shall involve total commitment of the leadership at all tiers of government, and the mobilization of the populace without creating a bloated government.
- Government shall be lean, efficient, honest, transparent, cooperative and friendly, operate on the basis of extensive devolution of power; and shall function mainly as a facilitator.
- Government's primary role shall be to ensure, in cooperation with the private sector, the urgent creation of adequate and efficient infrastructure, particularly of energy, telecommunications, water and financial services, to bring about a positive and internationally-competitive environment for economic activities.
- Private enterprise, private effort, and non-governmental action shall play the major role in achieving the goals of the society and the derived targets of the government.
- Everything shall be done to foster a strong work ethic to drive productivity.[36]

Objectives and instruments: These principles meant that the new Nigerian economy would be market-oriented, private sector-led, highly competitive (internally and globally, particularly in the areas of comparative advantage), technology-driven; broad-based, humane, open and internationally significant. The national economic policy is targeted at achieving economic revival and growth, a significant rise in the standard of living of the people, employment creation, participation in the global economy through a restructuring of the Nigerian economy and making Nigeria the centre of economy in the West African region. The following instruments, among others, would be used to achieve these objectives:

---

[36] Federal Government of Nigeria, *Nigerian Economic Policy, 1999-2003.* (The Presidency, Abuja: National Orientation and Public Affairs, 1999) Available at http://www.nopa.net

- Stabilized market-responsive exchange rate (within narrow bands and with sufficient predictability);
- Reduced interest rate (to reach single digit as soon as possible);
- Reduced total tax burden to a maximum of 30% of corporate and personal incomes as soon as possible;
- Low customs tariff, especially for production inputs (at less than 10 percent, with built-in incentives for local producers);
- Shift in government expenditure structure in favour of productive, economic and social sectors;
- Ensuring steady and adequate fuel supply;
- Rehabilitation and reconstruction of infrastructure, such as electricity, roads, water supply, railways and so forth;
- Enhanced incomes for workers, particularly in the public sector;
- Significant poverty reduction;
- Special focus on education and human capital development;
- High priority to agriculture, manufacturing, small/medium enterprises and the informal sector;
- Institutional rationalization of government and privatization;

- Generous incentives for local and foreign direct investment;
- Reduction of Nigeria's external debt burden through negotiation;
- Promotion of the deepening and increased efficiency of the financial system; and
- Operation of cooperative federalism to ensure inter-tier policy consistency and effectiveness.

The government had a set of targets to meet by the time its first term is completed in May 2003. However, it is not certain how far the Obasanjo administration has gone in achieving its goals, though a casual observation of the state of the Nigerian economy shows that in many sectors, things have gotten worse than when the current administration was inaugurated in 1999. An analysis of the national economic policy, which, in many ways, is still unfolding, goes beyond the scope of this chapter. Relevant to the present purpose is reference to the point that while the administration has constantly declared its intention to create a technology-driven economy, its national economic policy gives just three sentences to the development of information and communication technologies. On page 8 of the 11-page document is a section on "Information and Communication Technology" under which is the following declaration:

> Government will create incentives to expand access to information and communications technology which will facilitate leap-frogging in order to short-circuit the longer span of development. Government will encourage local production of ICT equipment and materials (computers, telephones, TVs, etc.). Government will also encourage the development of payment systems which will facilitate the growth of electronic-commerce.[37]

It is not surprising that this document paid such scant attention to the development and diffusion of ICTs. The Obasanjo Administration did not prioritize this sector early in its administration, conceptualizing of ICTs as "new-fangled notions of globalization and information technology."[38] (This is further developed in the next chapter.) And though strides have been made – through ICT-related policies that have enabled deregulation of the telecommunications sector and licensing of private telecommunications operators – ICTs are still a long way from being key instruments of development in Nigeria.

---

[37] Ibid., p.8

3:5 ICTs and national development plans

From the foregoing review of Nigeria's efforts at dealing with the problems of underdevelopment, it is obvious that telecommunications was given some attention in only three of the development plans. The first was the 1900-19 which was not really a development plan because there was no intention to "develop" the country in context of development as defined at the beginning of this chapter. And communication was included only as it facilitated the administration of the colony – and extraction of its resources by the Colonial Office. This also explained the emphasis on developing the transportation network – between the hinterland and the coast (through the rail network) and between the colony and the metropolis (through marine transportation) – to facilitate transportation of resources from the colony to the "mother country." Telecommunications assumed importance again in the 1970-74 Plan, not necessarily as a development tool, but in line with the modernization mood of the period. The telephone was seen, not so much as enhancing development, but as a symbol of modernization – just as the airports and roads built during this period, were. It was also the era of the "white elephant" projects with the Gowon Administration afloat with oil money and looking for ways to spend it.

---

[38] Chiahemen, John, "Earthy image dogs Nigeria's Obasanjo," a Reuters wire story, Feb. 26, 1999.

Attempts to develop the telecommunications sector began in the Second National Development Plan and continued into the third – 1975 to 1980, though many of the targets were not met. While the government of Babanginda did pay some attention to the sector – through the promulgation of Decree No. 75 of 1992 which set up the Nigerian Communications Commission, not much occurred until the Abacha years – when for the first time in Nigeria, private operators were licensed to provide telephone services mainly in Lagos. During this period too, private broadcasting began to operate for the first time in Nigeria.

In the current national economic policy, the development of ICTs does not seem to be such high-priority issue. However, in the years since the policy was released (in 1999), the private sector has pushed the issue to the top of the agenda of the federal and state governments. As a result, much more has been done in this sector during the Obasanjo Administration than was achieved by previous governments. In the current Nigerian economic policy, a target of 30 functional telephone lines per 1000 was set for 2003, an expected improvement on four per 1000 estimated for 1999. An International Telecommunications Union (ITU) report shows that at the end of 2001, there were 0.43 telephone lines per 100 inhabitants – still far from the target. But it is expected that there will be a significant increase in Nigeria's teledensity when the data for 2002 and 2003 are computed, if only in the mobile telephone category given the increasing level of mobile phone usage between the last quarter of 2001 and 2002.

A high teledensity will not however indicate increased access. As has been argued by a Nigerian telecommunications engineer, Titi Omo-Ettu, teledensity as a measurement of access does not work in a developing-country setting as it hides geographically and socially unequal distribution of the technology.[39] He suggests that access should be determined by distance and cost: how far an individual has to travel to be able to use a telephone at a price he or she can afford. Still, Nigeria's telecommunications sector has undoubtedly grown much more than in all of Nigeria's history – at least taking just the basic teledensity into consideration. And this growth has been exponential in the last two years. It would be unduly optimistic to expect that the diffusion of telephone and other ICTs will, within the foreseeable future, bring Nigerians to the point where they will once again declare that money is not their problem but how to spend it. But the Obasanjo Administration has developed policies and programs that should help Nigeria along the path to progress – that is, if the assumptions that positively link the diffusion of ICTs with socio-economic development are correct.

3:6 Conclusion

Three major issues have emerged in this chapter. First, through the excursion into Nigeria's history of economic development, one finds that the state has always played a key role in development. The private sector was mostly ignored but became central to the efforts at generating economic growth in the 1980s. This occurred in response to a variety of intersecting factors. For instance, following the debt crisis of the period, plummeting price of oil and the stagnation of the Nigerian economy, the government went the path of economic internalization, free trade, privatization and deregulation as packaged by the International Monetary Fund (IMF) in the structural adjustment program (SAP). From the SAP years to the present, the private sector has played more than marginal role in the Nigerian economy – especially with the privatization of hitherto government-owned and run businesses. However, the role of the state is still crucial in providing the regulatory framework for the economy generally and specifically for the development of the ICT sector. It presently acts as the major client or patron of private-sector interests in a relationship referred to as "strategic alliances" in the current policy on ICT. One practical example of this alliance is evident in the way government gives out huge contracts to private-sector individuals and corporations for the procurement and supply of ICTs to government institutions and agencies.

---

[39] Omo-Ettu, Titi, personal interview, Lagos, November 2001

Second, this chapter shows how development priorities constantly shift in response to domestic and/or external factors. For instance, the wave of global welfarism shortly after World War II under-girded the Ten-Year Plan for Development and Welfare (1946-1956) in which the colonial government attempted to incorporate the welfare of the colonial people by executing projects on education, transportation and communications. The Civil War not only interrupted the implementation of the First National Development Plan of

1962-1968, but it also informed the direction of the second plan (1970-1974): infrastructural, economic and political reconstruction. While the different shifts from one plan to another responded to current realities and perceived needs, they also created a discontinuity in priorities, leading in many cases, to abandonment of projects. The result is that the same problems – such as poverty and unemployment – that previous plans aimed at solving continue today, and constitute the content of current discourse on the linkages between ICTs and socio-economic development. It would therefore appear that the more things change (the shifting policies and priorities), the more they remain the same (the concerns and problems are constant).

Third, we see how ICTs barely featured in Nigeria's past development efforts even during the 1960s when the linkages between communications and development featured in most scholarly and policy debates in the "development community" of the time. Where attention was paid to ICTs, it was only as a good telecommunications infrastructure indicated a certain level of development, and not as a necessary foundation for many economic-generating activities. But in the current wave of ICTs-for-development, the Obasanjo Administration has tagged on an emphasis on ICTs as important tools to achieve the country's development goals. One restates the argument that the possibility that ICTs will finally be the solution to Nigeria's development problems is highly questionable. While attention to telecommunications might be said to be the missing link in the country's efforts at development, it was not the only obstacle. And given the history, it is more probable that after a few years, Nigeria will lose interest in ICTs and move on to the global trend of the moment. It is also likely that a new administration will emerge (either through the ballot or bullet) and identify new problems and seemingly new ways of dealing with them. One may not have an answer to the problem of underdevelopment in Nigeria, but one argues that it will take more than following the trend or listening to the voices of the loudest to achieve a development in Nigeria that addresses the need of the majority of the population.

Meanwhile, the government has formulated and begun the implementation of policies and programs aimed at increasing the development and usage of ICTs, not only for their sakes, but as they contribute to economic growth. The policies also clearly delineate the roles of the different sectors – state and private – in harnessing ICTs for development. I examine these policies in the next chapter.

References

Adebo, Simeon, "Foreword" in Stolper, Wolfgang F., *Planning Without Facts: Lessons in Resource Allocation From Nigeria's Development.* (Cambridge, Massachusetts: Harvard University Press, 1966)

Aka, Ebenezer, Jr., *Regional Disparities in Nigeria's Development: Lessons and Challenges for the 21st Century.* (Lanham, Maryland: University Press of America, 1999)

Akpan, Patience Idaraesit, "African in the age of a global network society: The Challenges ahead" in *African Studies Quarterly,* Summer 2000, Vol. 4:1

Anunobi, Fredoline O., *The Implications of Conditionality: The International Monetary Fund and Africa.* (Lanham, Maryland: University Press of America, Inc., 1992)

Bates, Robert H., "Governments and Agricultural Markets in Africa," excerpts from *Toward a Political Economy of Development* (1988) reprinted in Mitchell A. Seligson and John T Passé-Smith, eds., *Development and Underdevelopment: The Political Economy of Global Inequality,* 2nd edition. (London, UK: Lynne Rienner Publishers, Inc., 1998)

Bevan, David L., Paul Collier and Jan Willem Gunning, *The Political Economy of Poverty, Equity, and Growth* – A World Bank Comparative Study (Oxford University Press, 1999)

Chiahemen, John, "Earthy image dogs Nigeria's Obasanjo," a Reuters wire story, Feb. 26, 1999

Dean, Edwin, *Plan Implementation in Nigeria: 1962-1966* (Nigerian Institute of Social and Economic Research, Ibadan: Oxford University Press, 1972)

Emeagwali, Philip, "Can Nigeria Vault into the Information Age?" A paper prepared for delivery at the 1997 World Igbo Congress in New-York. Available at http://www.emeagwali.org

Federal Government of Nigeria, *Nigerian Economic Policy, 1999-2003.* (The Presidency, Abuja: National Orientation and Public Affairs, 1999) Available at http://www.nopa.net

Forrest, Tom, *Politics and Economic Development in Nigeria – Updated Edition.* (Boulder, Colorado: WestviewPress, Inc., 1995)

Goldsmith, Michael "The Development Paradigm as Neo-colonialism" in *Annual Editions: Developing World 01/02* (Guildford, CT: McGraw-Hill/Dushkin, 2001

Human Rights Watch: [illegible]
08.htm#P529_132846

Isbister, John, *Promises not Kept: The Betrayal of Social Change in the Third World.* (West Hartford, Conn.: Kumarian Press, 1998, 5th edition)

Ihonvbere, Julius O., *Nigeria: The Politics of Adjustment & Democracy.* (New Brunswick, New Jersey: Transaction Publishers, 1994)

International Telecommunications Union (ITU) Report, June 2002, available at www.itu.int.org

Jarmon, Charles, *Nigeria: Reorganization and Development Since the Mid-Twentieth Century.* (Lieden, The Netherlands: E.J. Brill, 1988)

Kuhn, Tilo E., "Transport and Communications Systems Planning for Reconstruction and Development" in Ayida, Allison A. and H. M. A. Onitri, eds., *Reconstruction and Development in Nigeria: Proceedings of a National Conference.* (Ibadan, Nigeria: Oxford University Press, 1971), Chapter 10

Lerner, Daniel, *The Passing of Traditional Society: Modernizing the Middle East.* (Glencoe, IL: Free Press, 1958)

Lewis, W. Arthur, *Reflections on Nigeria's Economic Growth.* (Paris, France: Development Centre of the Organization for Economic Co-operation and Development, 1967)

Lipton, Michael, "Urban Bias and Inequality," excerpts from *Why People Stay Poor: A Study of Urban Bias in World Development* (1976) reprinted in Mitchell A. Seligson and John T Passé-Smith, eds., *Development and Underdevelopment: The Political Economy of Global Inequality,* 2nd edition. (London, UK: Lynne Rienner Publishers, Inc., 1998)

McLean, Iain, (ed.) *Oxford Concise Dictionary of Politics* (Oxford & New York: Oxford University Press, 1996)

Obasanjo, Olusegun, "Nigeria on the Agenda: The Journey so far" – First anniversary speech. http://www.nopa.net/Useful_Information/Presidential_Speeches/29may00.html

Okigbo, Pius N.C., *National Planning in Nigeria: 1900-1992*, (Islington, London: James Currey Ltd., 1989)

Olaloku, F. A., *Structure of the Nigerian Economy.* (New York, New York: St. Martin's Press, 1979)

Onyemelukwe, Clement C., *Problems of Industrial Planning and Management in Nigeria.* (London, U.K.: Longmans, Green and Co. Limited; New York, New York: Columbia University Press, 1966)

Rimmer, Douglas, "Development in Nigeria: An Overview" in Bienen, Henry and V. P. Diejomaoh, eds., *The Political Economy of Income Distribution in Nigeria.* (New York; London, U.K.: Holmes & Meier Publishers, Inc., 1981)

Rostow, Walt W., *The Stages of Economic Growth: A Non-communist Manifesto.* (Cambridge, U.K.: Cambridge University Press, 1961)

Stolper, Wolfgang F., *Planning Without Facts: Lessons in Resource Allocation From Nigeria's Development.* (Cambridge, Massachusetts: Harvard University Press, 1966)

Uwadibie, Nwafejoku Okolie, *Decentralization and Economic Development in Nigeria: Agricultural Policies and Implementation.* (Lanham, Maryland: University Press of America, Inc., 2000)

Williams, Gavin, ed., *Nigeria: Economy and Society.* (London, U.K.: Rex Collings Ltd., 1976)

Wright, Stephen, *Nigeria: Struggle for Stability and Status.* (Westview Press, 1998)

Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996)

Zartman, I. William, with Sayre Schatz, "Introduction" in I. William Zartman, ed., *The Political Economy of Nigeria.* (New York, New York: Praeger, 1983)

Chapter 4

A country's journey to the future: The policy framework

4:1 Introduction

Nigeria's President Olusegun Obasanjo had always been disdainful of Nigerian journalists. And this sentiment was returned in full measure with regular reports and cartoons about his famous "uncouthness." Days before the February 27, 1999 presidential elections, Obasanjo's reputation as a "bush man" (Nigerian for an "uncultured" man) received a boost from the man himself. During a televised interview with journalists, Obasanjo reportedly reacted to questions regarding the Internet by playing on the words "download" and "upload." If he was to download, he asked, when did he have to upload? On a serious note, he said, he did not particularly care about technologies that downloaded unless they met the basic needs of Nigerians. He was quoted in a Reuters report as saying that he was not against the Internet or information technology, "but (acquiring) it ... should not be a priority over the technology to produce food or pound yams."[1] At the time, the statement was perceived as a signpost to Obasanjo's policies if he was elected as the president – preference for "appropriate technology over newfangled ideas of globalization and information technology." This generated vociferous attacks from Nigerians at home and abroad.[2]

One subscriber to a US-based Nigerian Internet discussion forum, Naijanet, expressed concern over Obasanjo's "warped policy preference" and the "need for enlightened people in leadership position."[3] But Obasanjo's lack of "enlightenment" in the face of the declared inevitability of information and communication technologies (ICTs) and doomsday predictions for countries who do not log on did not last for long. Neither did his adversarial posture with journalists, many of whom were, by 2001, meeting with him at least once a month in a regular monthly televised "media chat" with Nigeria's 11th head of state.[4]

---

[1] Chiahemen, John, "Earthy image dogs Nigeria's Obasanjo," a Reuters wire story, Feb. 26, 1999.

[2] Ibid.

His acceptance by Nigerian ICT optimists was simply a factor of his turn around (or "enlightenment") on issues relating to ICTs. Obasanjo's change in posture seemed inevitable in an environment filled with newspaper reports about the calamity that would befall a country if it failed to "embrace" the new technologies. For instance, Emma Nnama, identified in the media as a telecommunications expert, was quoted as declaring that Nigeria's relevance "in the on-going globalization of the world economy" and economic restoration depended on its "embrace … (of) the 21st century information technology."[5] Less than two years after the infamous "download and upload" episode, Obasanjo's speeches on many occasions would also extol, with the same fervour, the wonders of ICTs. In August 2001, he said at the commissioning of a computer research laboratory at the University of Ibadan: "Information technology is now the central determinant of socio-economic growth and national development separating those who can grow through access to knowledge and those who cannot."[6] Using the same revolutionary language that pervades ICT discourse in the country, Obasanjo was now speaking about the "ICT revolution" that had come to stay in Nigeria, and often declaring his vision "to see Nigeria embark upon the transformation of our national economy from a primarily natural resources-based one to a more diversified and knowledge based one."[7] This, he said frequently, called for a national rebirth and new focus. The new focus was evident in policies and programs that the Obasanjo Administration embarked upon especially in the second and third years of its tenure. The administration has done more – quantitatively and qualitatively – than any other prior administration in Nigeria to raise the standard and awareness of ICTs in the country, publicly declaring the country's inevitable journey to Castells's "global network society" (1996). Most of these efforts were driven by the formulation of two national policies aimed at guiding and regulating the development of ICTs and their utilization as tools for socio-economic growth in the country.

---

[3] Achebo, Nubi, in a posting sent to Naijanet@esosoft.com, Feb. 27, 1999

[4] Actually, Nigeria has had 12 different administrations in its 42 years of political independence – two of which have been headed by Obasanjo – 1976-1979 and 1999 till present.

[5] "Telecoms expert, Nnama urges Nigeria to embrace 21 century IT," *Daily Champion*, Nov. 2, 2000

It took Nigeria a long time to begin the journey toward the information society. As in many countries, the first steps were taken by the private sector, especially with the early usage of computers for basic word-processing functions. The print media were one of the earliest sectors to recognize the utility of computers for more complex functions beyond their purpose as advanced typewriters. As early as 1992, many print media organizations had begun to switch from cut-and-paste to desktop publishing because it was easier, faster and more cost saving and flexible. Traditional "typesetters" and compugraphers were re-trained in computer skills. By 1994, many of these organizations, particularly those in Lagos, were word-processing their news stories with computers. In 2001, many of them had eliminated the jobs of typesetters and typists because reporters were typing their own stories and sending them electronically to line editors, who were now also acting as copy editors, thus eliminating (or at least reducing) the need for sub-editors and graphic artists. Also, in 2001 it had become common to see many journalists – particularly those covering the information technology beat – lugging around top of the line Notebook computers and cell phones as part of their work equipment.[8] The banks also computerized their operations early on.[9] As at 2001, about 56 banks in the country had Internet access with many of them having websites and offering basic online banking services. As in many countries, ICT use in Nigeria began to spread through private initiatives, despite initial disinterest on the part of the government.[10]

---

[6] Sotunde, Iyabo, "Imperatives of Information Technology, By Obasanjo," *The Guardian*, August 11, 2001
[7] Ibid.

However, the absence of clearly defined policies on ICTs was considered by ICT practitioners to be a major hindrance to sustainable and purposeful ICT development in the country.[11] Jimson Olufuye, an industry activist, recounts the failed efforts of private-sector interests to get the National Committee for the Acquisition of Computer and

---

[8] Obijiofor, 2001 has an excellent analysis of the usage of ICTs by journalists in Nigeria.
[9] See Bada, 2002
[10] Onyekwere, Chima, quoted in Famakinwa, "Venture Capitalists Should Encourage Netpreneurs," *This Day*, Jan. 29, 2001
[11] The paradox is that when the policies on ICTs were finally promulgated, private-sector interests pressured to make them involve as little of government as possible.

Electronic Technology (NACACET), a committee appointed by the Ministry of Science and Technology, to take ICT development "more seriously."

> Though the objective (of the committee) was to provide cheap and affordable computers to Nigerian schools, business communities and homes, nevertheless the move failed because there was no clear Nigerian government vision on IT as a strategic tool for development. The long and short of it was that there was no IT policy for Nigeria by the then Federal government of Nigeria. … The impact of this zero-policy on the IT domain has grossly contributed to the underdevelopment of not only the profession and industry but also the Nigerian nation as a whole.[12]

Eventually, the government introduced two policies that would guide ICT development and use in the country. These are the National Policy on Telecommunications (NPT) of 2000 and the National Policy on Information Technology (NPIT) of 2001. The evidence suggests that though private-sector efforts had succeeded in raising ICT usage and awareness, it was only when the state prioritized ICTs through its policies and programs that greater awareness and usage ensued. To study the status of ICTs in Nigeria, it is therefore necessary to examine government actions in the sector, particularly as manifested in the promulgation of policies to provide guidelines and regulate activities in the industry. This chapter examines Nigeria's ICT policy framework through an analysis of the two policies as well as other state contributions to ICT development in the country, particularly between 1992 and 2001. The purpose is to attempt to answer some of the secondary research questions (discussed in Chapter One) in order to understand the development of ICTs as tools for socio-economic growth in the country. The research questions considered in this chapter are: 1) What is Nigeria's policy on information and communication technologies, and what factors drive this policy? Are policymakers' conceptions of ICTs integrated with the country's overall economic goals? 2) How does the government perceive its role in the acquisition and use of ICTs, and consequently their application as strategies for socio-economic development? Who are investing in ICTs? What is the role of the private sector?

---

[12] Olufuye, Jimson, "The state of IT practice in Nigeria" in *The Guardian*, July 24, 2001

Since this chapter focuses on Nigeria's ICT policy framework, it also includes a discussion of the seemingly ill-defined role of the state in the development and diffusion of ICTs in Nigeria. While government officials at every point insist that the new Nigerian economy, and specifically the development of ICTs, will be private-sector driven, government continues to play a significant role in these processes. For instance, as will be shown in the chapter, through the policies and licensing regimes that govern telecommunications operations, government sets the guidelines and determines what actors are involved in the market. Government also provides business for the private sector by contracting out many of its internal efforts at diffusing ICTs in government ministries and organizations as well as schools. In one sense, one finds that the state continues to be a key agent in development, just as it had been in earlier development eras (as discussed in the previous chapter). The central role of government has two implications. First, the involvement of the state creates momentum in the short run, which may be lost when new leaderships emerge, with the often attendant change in national priorities, or agencies of state respond to new trends in development and shift attention elsewhere. Second, the fact that the state does not completely leave the ICT sector to the private sector ensures that national economic goals are achieved because government can moderate the profit-making tendencies of the private sector.

However, while the state *seems* central to the process of development and diffusion of ICTs in the country, the private sector has already taken the lead. In the first place, ICT usage first began in this sector and far outstrips usage in government organizations. Secondly, it was this sector that pushed for the promulgation of the two policies governing the sector, especially the ICT policy. The discussions leading to the drafting of this policy were mostly generated from private-sector actors. And some of those interviewed during this research were directly involved and spoke about their role in the policy drafting and formulating process. As will be shown in Chapter 7, many interviewees from the private sector, in talking about the potential of ICTs for socio-economic development, were using the same language as that contained in the ICT policy even when many public-sector officials were still unaware of the contents of the policy. As one interviewee (from the private sector) said, it was important in the formulation of the policy to ensure that the private sector was given a significant role because of its relative permanence. The implication is that the private sector will always be there, but that government is temporary. This may be true, and the dismal track record of state-run enterprises proves that in Nigeria, one cannot trust the government to execute any important project.

However, allowing the private sector a free rein to determine the prospects of ICTs for development is problematic. For one, it may effectively scuttle any possibility that ICTs can be harnessed for socio-economic development (with development defined as the fulfilment of the basic needs of the greater number of people). This is because it is more likely that economic consideration – and maximization of profits – rather than development (broadly defined) will dictate how ICTs are diffused and who has access to them. The state is then left with two choices. One, it can get out of the ICT sector completely and channel its resources to projects that more directly address the needs of the majority of Nigerians. This means that the private sector will have to pay its way, as it were, and develop the sector for its own goals rather than benefit from government patronage while at the same time pursuing its economic interests. Two, the government could choose to be more involved in developing the ICT sector in order to achieve its stated goals of using the technologies for socio-economic growth and to give the country a competitive edge in the global information society. The policies and the ICT industry as they currently exist in Nigeria do not clearly define the roles to be played by the public and private sectors, even as everyone insists that the development of the sector will be "private-sector driven."

While the telecommunications policy gives its implementation agency a tight grip on the process of telecommunications deregulations and licensing, the ICT policy implicitly acknowledges the problem of the anomalous relationship between the private and public sectors by opting for "strategic alliances" between the private sector and government.

These alliances are expected to take the strengths that the private and public sectors bring into the process while minimizing their weaknesses. The nature of these alliances is explained in the chapter, though at the level of practice – as at 2001 – many actors in the sector interpreted these alliances to mean the donation of ICTs to government offices (more likely government officials) by companies in exchange for supply contracts. Ultimately, the alliance may collapse and government's grip on the process will weaken, especially when leaderships and priorities change. As is usually the case in the country (as argued in the last chapter), a new government will emerge and sweep away the programs of the previous one in an effort to convince Nigerians that the new is better than the old. Meanwhile, the private sector, which would have gained a lot of ground in the ICT industry, would continue to flourish, mostly at the expense of the larger society.

These are the issues addressed in this chapter through an analysis of the policies that govern the ICT sector in Nigeria. The chapter is organized in six sections starting with this introduction. In the second and third sections, I address each of the two policies governing Nigeria's ICT sector and the efforts at implementation. In the fourth section, I discuss the contributions of the private sector to the development and diffusion of ICTs in the country. This is followed by an analysis of the two policies from a critical and feminist perspective. The concluding section attempts to answer some of the research questions in light of the preceding discussion.

4:2 The National Policy on Telecommunications (NPT)

Background: Deliberate efforts to transform the Nigerian telecommunications sector from the colonial structure inherited at Independence began in 1992 when the military government of Ibrahim Babangida enacted Decree No. 75 of 1992. The objectives of the decree were broad, interpreting communications to include the electronic media as well as telecommunications. As its strategy for achieving the various objectives, the decree provided for the creation of the Nigerian Communications Commission (NCC) to replace the former Broadcast Commission of Nigeria. Inaugurated in July 1993, the NCC was given the task to:

- Create a regulatory environment for the supply of telecommunication services and facilities;
- Facilitate entry of private entrepreneurs into the market; and
- Promote fair competition and efficient market conduct among all players in the industry.[13]

Since its mandate included an oversight of the electronic mass media, the commission's early achievements included the privatization and de-regulation of the communication sector (which included broadcast communication and telephony). Through licenses issued by the NCC, for the first time in Nigeria's history, private electronic media (radio and television stations) began public broadcasting toward the end of 1994. Also for the first time, there were private telephone service providers besides the national carrier, the Nigerian Telecommunications Limited (Nitel), and payphones in some cities such as Lagos that did not carry the Nitel logo. The private telecommunications operators (PTOs) provided local services but also had the capacity to terminate calls such that people calling their customers from outside their operating areas could get connected through to their parties. This led to an increase in teledensity in places such as Lagos, where several of these providers had found fertile soil, especially in the new development areas not reached by Nitel network. Many of these companies, to overcome the infrastructural constraints (or perhaps to leapfrog antiquated technologies), provided their services through Wireless Local Loop (WLL), using radio waves for transmission rather than cables.

---

[13] Federal Republic of Nigeria, *National Telecommunications Policy*, 2000, p.13

In an interview in Abuja, November 2001, the chief executive officer of the NCC, Ernest Ndukwe, said the commission was set up primarily to liberalize the telecommunications industry. And on the basis of that mandate, he said the commission had accomplished a lot in the eight years since it was first inaugurated.

> We can say that today in Nigeria, there is a liberalized telecommunications environment and in various aspects, Nigeria is actually ahead of several other nations in Africa as far as this is concerned. Today we have competition in the delivery of telephone access activities in a number of cities in this country. Not all over the country because Nitel is still the dominant operator. But in places such as Lagos and Port Harcourt, the customer still has a choice of who to go to get a telephone line – it could be a fixed line or wireless line. It's either Nitel, or Intercellular or Multilinks and Bordex. … In the satellite communication area, Nigeria is one of the most liberalized countries in Africa. We have a number of companies providing satellite hubs and providing local satellite links between one part of the country and another.[14]

The NCC set in motion the process that resulted in the formulation of the National Policy on Telecommunications (NPT), announced in October 1999, amidst media fanfare, by

---

[14] Ndukwe, Ernest, personal interview in Abuja, November 2001.

Communications Minister Mohamed Arzika.[15] Addressing journalists, Arzika said the policy was aimed at helping the country to "achieve a modernization and rapid expansion of the telecommunication networks and services to enhance national economic and social development (and as) a major means of integrating Nigeria into the globalized telecommunication environment."[16]

In the preamble to the policy, its authors noted that the

> availability of an efficient, reliable and affordable telecommunications system is a key ingredient for promoting rapid socio-economic and political development of any nation as telecommunications is a vital engine of any economy; an essential infrastructure that promotes the development of other sectors such as agriculture, education, industry, health, banking, defence, transportation and tourism. It is indispensable in times of national emergency or natural disasters. It considerably reduces the risks and rigours of travel and rural-urban migration.[17]

They also underscored the need for Nigeria to have a functional and efficient telecommunications system for effective participation and equal partnership in the "emerging global market" and relevance in the "new millennium and beyond." This is because "global telecommunications provides the opportunity for a country to share in the wave of science and technology developments, and the general economy in positive ways, that account for the remarkable economic growth in advanced countries and the newly industrialized countries."[18] The policy not only set out to improve the country's telecommunications system, but to reverse the colonial trend where telecommunication facilities were "geared towards discharging administrative functions rather than the provision of socio-economic development in the country."[19] This was why the "introduction of public telegraph services linking Lagos by submarine cable along the west coast of Africa to Ghana, Sierra Leone, Gambia and on to England was a greater priority than a robust (internal) telecommunications network."[20]

---

[15] Three different versions of the national telecommunications policy were released in three years – 1998, 1999 and 2000. All references to the document in this chapter come from the 2000 version.
[16] Aragba-Akpore, Sonny, "NITEL, MTS may be favored for mobile phone permits" in The Guardian Online – http://www.ngrguardiannews.com Accessed Feb. 22, 2000.
[17] Federal Republic of Nigeria, *National Policy on Telecommunications,* 2000, p.10
[18] Ibid.

Prior to the formulation of the NPT, Nigeria had a public telephone network capacity of 700,000 lines, 400,000 of which were connected – though just about 60% of these lines were actually functional. This was an improvement from 1985 before the colonial Post and Telecommunications (P&T) department of the Ministry of Communications was broken into two separate government agencies. The Nigerian Postal Service was created out of the postal division of P&T to handle postal communications while the telecommunications division was merged with the Nigerian External Telecommunications to become the country's national carrier, the Nigerian Telecommunications Limited (Nitel) which now provided both internal and external telecommunication services. Before the creation of Nitel, there were 200,000 telephone lines in Nigeria, less than half of the network's capacity of 460,000 lines, operating on analogue exchanges. During this period, "telephone penetration remained poor – equal to 1 telephone to 440 inhabitants, well below the target of 1 telephone line to 100 inhabitants recommended by ITU for developing countries. The quality of service was largely unsatisfactory. The telephone was unreliable, congested, expensive and customer unfriendly."[21] When the NPT was announced in 1999, the number of lines had increased, though it is arguable if the quality of service had changed much during the period. But policymakers were convinced that there was a lot more that could be done to improve the country's telecommunications system.

---

[19] Ibid.
[20] Ibid.

Policy objectives and targets: The poor state of telecommunications in the country therefore framed the objectives of the NPT. Beyond the general objective already referred to, the policy set out three-year short-term, and five-year medium-term objectives because policy formulators believed that "the rapidly changing nature of technology in telecommunications makes it difficult to set long term policy objectives."[22] There were nine short-term objectives and included:

- Implementation of network development projects to ensure that the country met and exceeded the ITU recommended minimum teledensity of 1 telephone to 100 inhabitants. In practice, at least two million fixed lines and 1,200,000 mobile lines would be provided within 2 years;
- Promotion of widespread access to advanced communication technologies and services, in particular the Internet and related capabilities;
- Development and enhancement of indigenous capacity in telecommunications technology;
- Divestment of government's interest in state-owned telecommunications companies, such as Nitel and its mobile phone partner, M-Tel;
- Promotion of competition to meet growing demand through the full liberalization of the telecommunications market;
- Rapid resolution of licensing problems in the most equitable and transparent manner.

---

[21] Ibid., p.12

[22] Ibid., p.23

Some of the medium-term objectives were:

- The provision of a new regulatory environment sufficiently flexible to cope with new technological development and international trend towards convergence;
- Accessibility of telecommunications facilities to all communities in the country;
- Encouragement of domestic production of telecommunications equipment in Nigeria, as well as development of related software and services;
- Establishment of and reaching aggressive targets for the installation of new fixed and mobile lines;
- Encouragement of the development of an information super-highway to enable Nigerians enjoy the benefits of globalization and convergence; and
- Creation of the enabling environment, including the provisions of incentives to attract investors and resources to achieve policy objectives.

Strategies: To meet these objectives, the policy targeted four areas of development: mobile cellular communication, appointment of carrier organizations, Internet and web-based services, equipment manufacture and software development. The implementing agency, the NCC, expected to set out guidelines for private-sector participation, was mandated to issue licences to companies to provide services in the areas of: installation and operation of public switched telephony, terminal and equipment, payphones; provision and operation of private network links employing cable, radio communications, or satellite within Nigeria; mobile telephony; and repair and maintenance of telecommunications facilities.

As noted earlier, the NCC had already started to accomplish some of these tasks as part of the process of deregulation and privatization of the telecommunications sector that began with the enactment of Decree No. 75 of 1992. But the NPT revised some of these tasks, expanding the role of the commission but now requiring more fairness, equity and transparency from its members. Up to that point, the commission

> basically behaved like an organ of Nigeria's military set up and believed it owed nobody any explanation for its actions and consequently it was never part of its credo to explain its intentions, plans and actions to stakeholders and invite public participation in the formulation of such plans.[23]

But with the exit of the military regime and return to a democratic system of government, things were bound to change. As Madamkor (2001) said: "The political environment in Nigeria is now different with a democratic government in place and therefore arbitrariness and inexplicable inconsistency are deemed to belong to the past."[24] To this end, the new policy while making the NCC an independent regulatory agency expects it to:

> Make its decisions regarding licensing, tariff regulation, interconnection disputes, and any other matters directly affecting industry operators, in an impartial and independent manner. It shall be guided by the overriding objectives of the National Telecommunications Policy, and considerations of fairness, equity and transparency. … Rulings shall not be directly influenced by government or private industry. All deliberations of the Commission shall be undertaken in a transparent manner, subject to the rights of operators to non-disclosure of proprietary and competitively sensitive information …[25]

The policy also gave the NCC additional responsibilities such that its regulatory powers and functions extended far beyond broadcast and telephone communications into information technology, broadly defined. For instance, the commission was no longer simply licensing telecommunications operators, assigning frequencies and administering the national telephone numbering plan, it was also entering into the licensing of Internet service provision, operation of cyber cafés and satellite communication systems.

---

[23] Usoro, Paul, "Matters arising on mobile wireless licensing," *The Guardian*, October 31, 2000, p.43

[24] Madamkor, Moses, "Report on Investment Incentives in Nigeria" to the Telecommunication Development Bureau, ITU-D Study Groups, July 9, 2001. Madamkor is an assistant director in the technical services division of the Ministry of Communications, Abuja.

[25] Federal Republic of Nigeria, *National Telecommunications Policy* (2000), p.32

4:3 Implementation of the NPT

Three months after the 1999 announcement of the NPT, the NCC began to take bids for four licenses to provide mobile telephony in the country. This was the first of several attempts over two years to get the process right. There was so much confusion and frustration for investors particularly when licenses were issued and cancelled in what appeared to be a very arbitrary manner. And in the midst of all these, there was a debate about what type of technology to adopt in delivering mobile telephony in the country. The split appeared to be between the Global System of Mobile Communication (GSM, the system used in Europe and most of Asia) and Code Division Multiple Access (CDMA, the system used mostly in North America).[26] A third alternative, considered the best of both worlds, was the integration of the two technologies into one system, according to an agreement reached during the 2000 World Radio Conference in Istanbul, Turkey. This was expected to facilitate universal roaming of cellular phone service, thereby increasing access. In Nigeria, government officials were reluctant to take a position because, as Communications Minister Mohammed Arzika said in a newspaper interview in July 2000, it was up to the service providers to decide which of the technologies would be more profitable to them.[27] And as at the time of the auctioning of the digital mobile license (DML) in 2001, more than 96% of those who had expressed interest in the Preliminary Information Memorandum had indicated a preference for

---

[26] By 2001, many mobile telephone service providers in the US, such as Voicestream, were beginning to offer their services using the GSM technology.

[27] Interview with Sunny Aragba-Akpore, "NCC has powers to issue all telecom licences, says Arzika," *The Guardian*, Monday, July 3, 2000, pp. 58-59.

GSM, according to the NCC. This technology was therefore eventually adopted as the digital mobile technology of choice for the country. And with this major decision taken, the NCC began plans to issue licenses to four operators to offer mobile telephony using the GSM technology and operating on the 900 and 1800 Megahertz (MHz) frequency bands.

The GSM is a standard for mobile phone communication originally developed in Europe and now deployed worldwide with the notable exceptions of US and Japan. The technology has a uniform standard which facilitates international roaming with the same number and phone from one's home country.[28] "The GSM platform enables mobile users the convenience of a single number, a single bill and a single phone with worldwide access" because of the capacity to roam.[29]

A final date to auction the DML was shifted from December 6, 2000 to January 17, 2001. The auctioning was a four-stage process: invitation, pre-qualification, auction and grant stages. At the pre-qualification stage interested parties were required to pay a refundable deposit of US$20 million to the Chase Manhattan Bank in New York. Successful bidders would pay the final license price less this amount while those who did not make it to the final four would be refunded the deposit with applicable interests. The auctioning itself began with an initial reserved price of US$100 million. The pre-qualification deposit and high reserved price were set to discourage non-serious bidders from participating in the process, according to the NCC. At the end of bidding, the highest offer was US$285 million and this was the final price for each license. Successful bidders were given 14 days to raise the money. Three met the deadline but one did not, arguing that it was seeking further clarification from the NCC before making the financial commitment. The federal government made US$855 million out of the deal, sharing it out months later among the state governments.

---

[28] Roaming refers to the ability to use a cell phone while out of one's home network coverage area. Mobile phone providers enter into interconnectivity agreements with each to allow their customers access to each other's coverage areas, at some or no cost to the customer.
[29] Famakinwa, Samuel, *This Day*, October 25, 2001, p.35

There was a public outcry against the high cost of the licenses and the fact that the federal government did not apply the revenue to the development of the telecommunications sector. The perception was that government officials were only interested in making money out of the deal. The result was that the operators would be anxious to recover the cost of their investments within the shortest possible time and therefore less interested in providing quality and affordable services. This concern was to bear out when the operators rolled out months later with tariff regimes that made Nigerians scream some more – at least, going by the many press conferences and letters to the editor. Many pressure groups threatened to boycott the phone companies, accusing them of being "foreign companies" who just wanted to get in and make money and get out of Nigeria. They also noted that in Zimbabwe and South Africa where the two companies also had operations, the tariffs were much lower. The Nigerian government was equally criticized for being more interested in making money off the operators than in ensuring that Nigerians were protected from "foreign exploitation." This sense was further accentuated when the NCC took out full-page newspaper adverts to defend the operators and their tariff regimes.

The NCC's action did not surprise anyone who had read the NPT. The document stipulates that in order to attract private sector participation in the telecommunications sector, "the tariff structure shall be market-driven, enabling service providers and operators to recover their investments over a reasonable period of time."[30] During a personal interview, Ndukwe, chief executive of the NCC, defended the newspaper adverts saying that it was a wrong perception that the commission protected the GSM operators to the disadvantage of consumers.

> We are to protect all. We don't protect one and leave the other. (At) NCC, our job primarily is to bring investment into this country in a liberalized telecommunications environment. We need to create the atmosphere that will encourage private sector investment into the industry. We need the big companies. Before last year, many small companies were licensed to provide telecommunication services of one sort or the other. Up till today, putting all of them together, they have not been able to produce up to 100,000 lines. … These two GSM operators within two months delivered 120,000 lines. Perhaps within five months, they will deliver 400,000. We need to encourage big investments in our territory. So while we are encouraging them to invest, we also have a duty to make sure that consumers are also protected. So we protect both the big guys and the small guys. What people think is that you should only protect the small guys and not the big guys but that's not true. You need to create an enabling environment that will encourage massive investments and that is what we are doing. You do not try and kill the hen that lays the golden eggs.[31]

Besides protecting the "big guys" to encourage them to invest, a public official said the NCC actually encouraged the initial high tariffs set by the GSM operators. This had been "necessary" to discourage Nigerians from scrambling for GSM phones before all the problems had been sorted out. But critics such as Titi Omo-Ettu argued that if ICTs are to promote socio-economic development, then emphasis of licensing and tariff regime should deliberately favour the access of all citizens to affordable telecommunication infrastructure. This would require a lower licensing fee regime as well as a tax system that was attractive to investors.[32] He however argued that since the federal government generated so much revenue from the licensing process, it should have used it to develop the telecommunications sector, rather than share out among the state governments for purposes that did not contribute to the improvement of the telecommunications sector. Already, there was a dire need to expand the country's public switched telecommunications network (PSTN), failure of which had and would continue to congest the expanding GSM networks. Omo-Ettu said if the private operators have to develop the necessary and supporting infrastructure (a task for the government), then the cost of their services would go up even more.[33]

---

[30] Federal Republic of Nigeria, *National Telecommunications Policy,* 2000, p.58

[31] Ndukwe, Ernest, personal interview in Abuja, November 2001.

GSM operators roll out services: On August 9, 2001 two of the licensees, Econet and MTN, rolled out their networks with an estimated capacity of 100,000 lines each, targeting a monthly revenue of one billion Naira.[34] Whatever developments occurred in the past in the telecommunications sector were overshadowed by the launch of the global system of mobile communication (GSM) in Nigeria. Commentators hailed the development as epochal in the history of telecommunications in Nigeria, and predicted a bright future for the sector. By December 2001, the three GSM operators had started full service, and subscribed about 120,000 users – and the numbers were still growing with promotional packages offered by the operators and the expected full operation of Nitel's GSM services by March 2002. The significance of this development needs to be put in perspective. In about 136 years of telecommunications in Nigeria (starting with the telegraph in 1861), there were less than 500,000 functional phone lines in the country of approximately 116 million people. Also, in the four years that the small private telecommunications operators (PTOs) had offered telephone services (fixed line, wireless fixed line and mobile phone services) they had provided less than 100,000 lines – and these only in Lagos and a couple of other big cities. The spread and significance of the GSM mobile phone services in raising Nigeria's teledensity was further given a boost by an ensuing price war between the two major operators four months into their operation. By Christmas 2001, the cost of acquiring the service – line and handset – had dropped to almost half of what it was at its launch only four months earlier.

---

[32] Omo-Ettu, Titi, personal interview in Lagos, December 2001.

[33] Ibid.

[34] The third licensed operator, Nitel, did not begin its GSM operations until October 15.

Private telephone operators join in the fray: The process of privatizing telecommunication services in Nigeria began in the 1990s with the licensing of private telecommunications operators (PTOs) to provide local phone service and terminate calls. While their spread and coverage were limited, these companies contributed to the development of the telecommunication sector, and awareness of the benefits of telephony in Nigeria particularly in Lagos where most of them operated. For the first time, there was an alternative to Nitel. And in an environment where Nitel (despite its status as a relatively independent government enterprise) was operating with the same inefficiency and corruption that beset the Nigerian civil service, people had a choice. Unlike Nitel staff, workers at PTOs had fewer reasons to demand bribes from customers since they were seeking to increase their customer base. While their technical services depended on the poor state of the public switched network (managed by the national carrier), their customer services made up for other shortcomings. Their services were more expensive than Nitel's, but the wait-time was almost insignificant compared with Nitel where application for a telephone line could take up to two years (and several bribes) to process. More significantly, the PTOs, by using wireless connections were able to provide services in areas that had not been connected to the Nitel national grid, and probably would never have had a telephone system. In terms of numbers, Lagos is probably the state with the most telephone lines – about 50% of all functional main telephone lines in Nigeria are in Lagos. But it is also one of the fastest growing states in the country such that public utilities like electricity and water, most of which have not changed much since the reconstruction years of the 1970s, are greatly extended. It is common therefore to see the majority of the population providing their own utilities – boreholes for water, generating sets for electricity, and paramilitary guard services for security. Phone services provided by the PTOs were therefore considered one more way in which Lagosians were surviving outside the framework of the state.

Even the rural dweller could also make a phone call: The Obasanjo Administration tried in its first year to make telephone affordable and accessible to a greater percentage of the Nigerian population, especially the majority (about 65%) who live in the rural areas. In 2000, the government pegged down the cost of acquiring a phone line to ₦20,000, and months later, further reduced it to ₦15, 000 and by October 2001, the official cost of acquiring a telephone line was ₦9, 000 though the actual cost was much higher. At the end of 2000, acquiring a cellular line (on the pre-GSM analogue system) cost ₦25, 000 instead of ₦40, 000. Also in 2000, the government reduced phone rates per three minutes: five Naira for a local call, ten Naira for a trunk (or long-distance) call and ₦200 for international calls.[35]

Furthermore, during the summer months of 2000, Communications Minister Arzika traveled round the country to inspect communication facilities. In each state, he met with the governor and used the occasion to announce an expansion of the area's telephone exchange capacity to a certain number. For instance, he announced the addition of 49,000 lines to the Northwest Zone of Kaduna, Kano, Sokoto and Kebbi states. In this zone, only Kano's exchange was digitalized and it took the larger share of the new lines (30,000) because of the state's centrality and the commercial nature of Kano City – which has Nigeria's second functional international airport.[36] The government also embarked on the process of switching many of Nigeria's telephone exchanges from the analogue to the digital system for better functionality. As well, it announced plans to switch from aerial telephone cables to underground ones. This move was expected to improve general communication services as well as protect the cables from vandalism and natural disasters.

---

[35] A year later, the state telecom operator, Nitel, "quietly" raised the rates. A spokesperson for NCC, the regulating body, was to express surprise in the media about the new rates. The government quickly intervened and Nitel announced that it would revert to the previous rates.

[36] The other is the Murtala Mohammed Airport in Ikeja, Lagos. The Port Harcourt and Abuja airports are also increasingly recording a number of international landings.

At numerous occasions, relevant government officials said affordable telecommunication was a cardinal program of the Obasanjo government. Accordingly, the government earmarked ₦10.5 billion for rural telephony. "Under the program, 50 (telephone) lines will be provided for each of the 774 local government areas of the country. Overall, 45,000 phone lines will be provided to the remotest parts of the country."[37] Toward the end of 2000, the NCC, in pursuit of the NPT's goal of universal access, announced a pilot scheme to connect 12 states to a newly created Public Switched Telephone Network (PSTN) using microwave transmission.

By the end of 2001, the rural telephone project had not taken off for several reasons. First, the Communications Minister Arzika had been replaced with another person. While the changes at the ministry might not have directly affected the implementation of the project, lack of continuity in leadership has been cited as one of the reasons why good policies fail in Nigeria. Emmanuel Ekuwem, an electronics/electrical engineer, who provides "wireless access solutions" to the ICT industry in Nigeria worried that this was one of the reasons why the policies on telecommunications and information technology might not be enough to diffuse ICTs in Nigeria. He said that while policies can be implemented regardless of the personnel, often, new people come in with their own agendas and priorities that may be different from those of their predecessors.[38]

---

[37] Oti, Andrew, "Nigeria needs rural telephones," *Daily Times,* Jan. 10, 2000.

But even without the change in leadership at the Ministry of Communications, the rural telephony project might still not have taken off because the funds – about US$10 billion – expected for the project were to come from a Presidential Task Force set up and funded by a percentage of the country's oil revenue to help in the development of infrastructures in the country. It never did. Also, and perhaps related to the first, the process of selling Nitel, the public carrier, had dragged on for almost a year. According to Tayo Ekundayo, Nitel's general manager of public relations, the privatization process slowed down a lot of things, and not just the rural telephony project.[39] Ekundayo expressed the hope that Nitel's new owners would execute the rural telephone project.[40]

In any case, even if the rural telephony project had been executed, provision of 45,000 phone lines in rural areas in a country where 65% of Nigeria's estimated 116 million people live, is a long way from universal phone service. Also, while the official cost of acquiring a telephone line had dropped in 2001 to ₦9,000 (handsets inclusive), it actually cost at least ₦40,000 – from the time when one applies for the line to the moment when one can successfully complete a call on the line. "In many cases, such as in Lagos, the lines are not available because of the limitation of Nitel's External Line Plants. There are about 400,000 lines in Lagos but only 200,000 are actually connected to subscribers because of the ELP limitation."[41]

---

[38] Ekuwem, Emmanuel, personal interview in Lagos, November 2001.

[39] Ekundayo, Tayo, Personal interview in Abuja, October 2001.

[40] As at September 2002, Nitel had still not been sold, and thus the rural telephony project had still not taken off.

In other parts of the country, the telephone situation had become worse by 2001 than it had been in 2000. For instance, many of the local exchanges (examples in Abak and Ikot Ekpene in Akwa Ibom State) that had been functional in 2000 had shut down a year later, with the buildings becoming homes for lizards and rats. This meant that all the phone lines in these towns were dead. Indeed, in Akwa Ibom – a state of 2.5 million people, 85% of whom live in the rural areas – only the state capital, Uyo, had a fairly functional phone system such that people wishing to make phone calls would travel between 40 minutes to three hours to the Nitel exchange in Uyo to make a pay-phone call, or at some of the business centres in the capital. In the neighbouring Cross River State capital of Calabar, the phone was regularly down for upwards of two weeks at a time between July and December 2001. During these periods, one could not call from or to Calabar – the only town in the state of about two million people that had any reliable telephone network. While the GSM network had been expanded to reach a small radius of Uyo, as at the end of 2001, there was no GSM in Calabar, further worsening the city's communication situation.

The implementing agency, NCC, had taken steps to actualize the initiatives set out in the NPT, but Nigeria at the end of 2001 was still very far from achieving the policy's short-term target of providing one telephone to 100 inhabitants – two million fixed lines and 1.2 million mobile lines within two years of its release. According to the International Telecommunications Union (ITU), Nigeria's teledensity as at the end of 2001 stood at 0.43 percent of the population – that is 0.43 main phone lines to 100 inhabitants; and 0.28 cellular phone lines to 100 inhabitants. These contrast with the numbers for Africa – 2.62 main telephone lines per 100 inhabitants and 2.95 mobile phone lines per 100 inhabitants.[42]

---

[41] "It's cheap on paper, costly in reality," *Saturday Tribune*, June 17, 2000, p. 11.

4:4 The National Policy for Information Technology (NPIT)

Vision and Mission: The second key policy on the Nigerian ICT sector is the National Policy for Information Technology (NPIT), which specifically focuses on information technology (namely, the Internet and computers – including the related hard/software aspect of the technologies). Its vision is to facilitate the process of making Nigeria "an IT capable country in Africa and a key player in the Information Society by the year 2005, using IT as the engine for sustainable development and global competitiveness."[43] Its specific mission is to use information technology for education, creation of wealth, poverty eradication, job creation and global competitiveness.

Background: The National Policy on Telecommunications (NPT) had been widely criticized particularly for its narrow conception of telecommunications as telephone communication. This raised the need for a national policy that would provide coverage for the information and communication sector while addressing the shortcomings of the NPT particularly in acknowledging the comprehensive nature of information and communication technologies. The document, announced to the public in March 2001, was the result of consultations among interest groups in the industry culminating in a three-day national workshop on National Information and Communication Initiatives – Options, Policy and Plans in Abuja, March 2000. The workshop was held under the auspices of the Cooperative Information Network (COPINET) and sponsored by various organizations including the Nigerian government and Ford Foundation. The papers and comments presented at the workshop laid the framework for the NPIT. Relevant professional and trade associations such as the Computer Association of Nigeria (COAN), Information Technology Association of Nigeria (ITAN) and the Institute of Software Practitioners of Nigeria (ISPN) later submitted proposals to the policy drafting committee chaired by Gabriel Ajayi, a professor of telecommunications engineering at the Obafemi Awolowo University, Ife and key figure in Nigeria's IT industry. He was subsequently appointed in June 2001 as the director-general of the Nigerian Information Technology Development Agency (NITDA) to coordinate the implementation of the IT policy. According to Ajayi, the need for a national policy on information technology became imperative after "the participation of the Nigerian delegation in the first African Development Forum on the Challenge to Africa of Globalization in the Information Age held in Addis Abba in October 1999." [44] After the Copinet workshop, "More efforts followed and culminated in the production of a master plan for the development of a national ICT program 'ICT 2000' during the term of Chief Ebitimi Banigo as Honourable Minister of Science and Technology."[45]

---

[42] International Telecommunications Union, ITU-D Country Database, June 2002. Available at http://www.itu.int/ITU/CDS

[43] Federal Republic of Nigeria, *National Policy on Information Technology*, 2001, p.iii

---

[44] Ajayi, Gabriel, personal interview in Abuja, November 2001

The NPIT was widely welcomed by the various interest groups in the country. As Ajayi states: "the response from the private sector has been overwhelming."[46] This is not surprising. For one thing, the policy is clearly a market-oriented document and essentially the product of contributions generated from the private sector. In fact, it was interesting (as will be seen in Chapter 8) how many of the private-sector people interviewed in the course of this research were using the same words as those contained in the NPIT when speaking about Nigeria's IT industry and visions for the future. Secondly, the policy document clearly recognizes that the development of ICTs in Nigeria must be private-sector driven. The role of government will be:

- To provide an enabling environment so that private ventures can flourish;
- To use favourable fiscal policies to make Nigerian IT products and services globally competitive.
- To ensure that NITDA in collaboration with the private sector develops a large pool of IT professionals with wide range of state of-the-art IT skills for internal and international redress of shortages.
- To establish joint government/private sector institutional framework for developing advisory standards and quality control.
- To encourage local capacity building by providing guaranteed markets in specialized and strategic IT sectors.

Objectives: The NPIT sets out 31 general objectives some of which are:

---

[45] Federal Republic of Nigeria, *National Policy on Information Technology,* 2001, p.viii
[46] Ajayi, Gabriel, personal interview in Abuja, November 2001

- To ensure that Information Technology resources are readily available to promote efficient national development;
- To guarantee that the country benefits maximally, and contributes meaningfully by providing the global solutions to the challenges of the Information Age;
- To empower Nigerians to participate in software and IT development; To encourage local production and manufacture of IT components in a competitive manner;
- To improve accessibility to public administration for all citizens, bringing transparency to government processes.
- To establish and develop IT infrastructure and maximize its use nationwide; To improve food production and food security; To improve healthcare delivery systems nationwide;
- To empower children, women and the disabled by providing special programs for the acquisition of IT skills;
- To integrate IT into the mainstream of education and training; To create IT awareness and ensure universal access in order to promote IT diffusion in all sectors of our national life; and
- To strengthen national identity and unity.

Strategies: Specific strategies for actualizing the policy's objectives include: the development of a national, state and local information infrastructure backbone by "using emerging technologies such as very small aperture terminals (VSATs)[47], fibre-optic networks, high-speed gateways and broad band/multimedia technologies; provision of adequate connectivity to the global information infrastructure; establishment of IT parks as "incubating centres for the development of software applications at national, state and local levels; and the establishment of the National Information Technology Development (NITDA) to implement short-to-medium term objectives of the policy. This agency, which was established three months after the policy was announced, will "regulate, monitor, evaluate and verify progress on an on-going basis under the supervision and coordination of the Federal Ministry of Science and Technology. Its operations will be funded amongst others with a start-up grant of at least US$10 million." NITDA would also be responsible for a National Information Technology Development Trust Fund (NITDEF) to be established by the federal government with a start-up grant of US$150 million. Additional financing for NITDEF will come from the allocation of 2% of the federal capital annual budget and 3% of tax on all imported finished IT products. Among other activities, the fund will be used as venture capital to provide start-up financing to small and medium scale enterprises. NITDEF will also fund "transfer of knowledge through exchange of visits between expatriate IT experts and Nigerian IT experts in Diaspora on one hand and IT experts and institutions in Nigeria."[48]

---

[47] In satellite communication, signals are sent from Earth to a satellite launched in space. When the signals hit the satellite, they are reflected back to earth and can be received through the appropriate technologies. According to one of my sources, Titi Omo-Ettu, an electrical/electronics engineer, satellite transmitters usually have large apertures but in recent years, it was found that very small aperture terminals could do the same job on a smaller scale but at relatively cheaper costs. In Nigeria, companies such as banks and some very wealthy individuals can now afford them. The Nigerian Communications Commission allocates the frequencies and VSAT licenses to end-users.

Other strategies for achieving the policy's goals include the restructuring of the Nigerian education system at all levels "to respond effectively to the challenges and imagined impact of the information age" and in particular, the allocation of a special IT development fund to education at all levels; restructuring of the healthcare system by creating a national databank to provide on-line national healthcare information, administration and management at primary, secondary and tertiary levels; encouragement of "massive local and global IT skills acquisitions through training in the public and private sectors with the view to achieving a strategic medium-term milestone of at least 500,000 IT skilled personnel by the year 2004."[49] The strategies also include the establishment of national IT awareness machinery at all levels of government and encouragement of private sector participation in exposing Nigerians to the features and benefits of IT. Accordingly, the government plans to strengthen its efforts at collaborating with the private sector in the attainment of national self-reliance particularly in the area of the development and diffusion of IT for socio-economic goals. Finally, the Nigerian government hopes to use IT to bring "government to the doorsteps of people by creating virtual forum and facilities to strengthen accessibility to government information and facilitating interaction between the governed and government leading to transparency, accountability and the strengthening of democracy;" and "utilizing IT opportunities to restructure government, citizens and business interfaces for better governance, improved trade and commerce and administrative effectiveness."[50]

---

[48] Federal Republic of Nigeria, *National Policy on Information Technology,* 2001, p.10

Actors: The policy consistently stresses the role of the private sector in the development of IT in the country. The role of government will be only to provide an enabling environment so that "ventures can flourish," as well as engage in joint ventures with the private sector. Some of the policy's 31 general objectives further highlight the enabling role of government in a sector that will be "private-sector driven." Government will:

- create an enabling environment and facilitate private sector (national and multinational) investment in the IT sector;

---

[49] Ibid., p.v-vii
[50] Ibid.

- stimulate the private sector to become the driving force for IT creativity and enhanced productivity and competitiveness;
- encourage government and private sector joint venture collaboration.

In the chapter on government and private-sector partnerships, the policy sets out a set of strategies for achieving its goals. These include the promotion of equity participation (joint venture partnership) with IT investors both locally and internationally, and the establishment and operation of IT free zones (or IT Parks) in the country's six geo-political zones and Abuja to attract local and foreign investment in IT. Companies located in the IT free zones or Export Processing Zones (EPZ) would benefit from various incentives including reduced import tariffs, access to the Nigerian domestic market and the repatriation of at least 15 percent of their profits. The government will also set up "power corridors" to the IT Parks to ensure consistent and reliable power supply, as well

Table 4-1 NITDA's IT Parks

State	Cost of 100 ha land (US$) million	Cost of utilities (US$ million)	VSAT and IT services (US$ million)	Offices and Warehouses (US$ million)	Total (US$ million)
Sokoto	1.5	3.0	2.0	6.0	12.5
Yola	1.5	3.0	2.0	6.0	12.5
Jos	1.5	3.0	2.0	6.0	12.5
Lagos	4.0	3.0	4.0	9.0	20.0
Yenagoa	4.0	3.0	2.0	6.0	15.0
Enugu	1.5	3.0	2.0	6.0	12.5
Abuja	S&T Park	3.0	3.0	8.0	14.0
Total:					99.0

Source: National Policy on Information Technology (Government Copy) as remove "all bureaucratic bottlenecks to the development of local capacity building."[51]

Many stakeholders from the private sector hailed the policy for being proactive and thus the tool needed to develop the ICT sector. This was to be expected because, as noted earlier, the document is mostly a product of the hopes and aspirations of the private sector. Emmanuel Ekuwem, who is also the vice chairman of the Nigerian Internet Group (NIG) and a key participant in the process leading up to the formulation of the policy said:

> We want(ed) the implementation of the IT policy to be private-sector driven because the private sector is constant. They are investors. … If the implementation of the policy is in the hands of private-sector organizations, then we are most sure … of sustainability. The President has said that the new Nigerian economy should be market-oriented, private-sector-led and IT-driven. This is superb. This is the statement of Mr. President and we are all happy about that.[52]

4:5 Implementation of the NPIT

Five months after its creation the policy's implementation agency, NITDA, set up shop in Abuja, the Federal Capital Territory, and began the implementation of some of its assignments. It embarked on a multi-phase pubic service information network with the hub based at its Area 11, Abuja headquarters, with access to the Internet through VSAT. Part of the first phase of NITDA's assignment involved the setting up of a computer-smart room with 30 computers in the agency's office for the training of key government functionaries starting with President Olusegun Obasanjo and his ministers. Already, it was consulting for the Federal Civil Service Commission and some ministries in their IT development programs. Through alliances with some international organizations, NITDA helped in setting up a telecentre at the International Women's Centre in Abuja. By December 2001, the agency was trying to help Kwale, a rural settlement outside Abuja, to link up the community with a local area network (LAN) with a future plan for an external connection to the Internet through VSAT.

---

[51] Federal Republic of Nigeria, *National Policy on Information Technology,* 2001, p.24

[52] Ekuwem, Emmanuel, personal interview in Lagos, November 2001

Part of NITDA's tasks involved the creation of IT departments in selected educational institutions. To start off, the agency was expected to provide 5,700 computer systems (acquired through supply contracts to the private sector) to 185 tertiary, secondary and primary institutions within the first three years. The agency, according to Ajayi, also planned to set up training centres in Abuja and in each of the six geo-political zones in the country. Target trainees at these centres were fresh university graduates who would be taught either in the area of IT application or software/hardware development. The objective was to re-structure the country's education curriculum from primary to tertiary levels with a view to training half a million IT professionals by 2004.

Ajayi acknowledged two major challenges in the process of moving Nigeria to the global information society. These are: awareness and access. On the question of awareness, he said his agency, as well as other state organizations such as the Federal Ministry of Information and National Orientation, were embarking on projects to publicize the benefits of ICTs. The message was that IT could be used to "leverage our development" as well as assist in achieving President Obasanjo's overall national goals. Ajayi noted that the years of military dictatorship in Nigeria coincided with the revolution going on (in information technology) "but we couldn't participate. We realize that Nigeria is starting late," but the country can still use IT to meet its overall objectives especially in the area of education (long-distance learning, research and bio-technology).[53] The agency planned to hold IT forums in various parts of the country, appeal to university theatre art students to incorporate the benefits of IT in their plays, as well as commission IT-based story lines. As well, there would be television advertisements extolling the benefits of IT. A forum was also being planned for local government chairpersons and IT commissioners in the states to raise IT awareness.

Creating IT awareness among the 774 local government council chairpersons was considered crucial to raising the level of IT usage by Nigerians because as Ekuwem pointed out, as soon as one local government was on the World Wide Web, others would want to score political points by also going online. In the process, the technology would spread and both usage and access would expand. To this end, his Nigerian Internet Group planned to meet with local government executives who come together under the umbrella of Association of Local Government of Nigeria (ALGON).

> They are having a meeting in December (2001) and we are going there. …We are going to address them on the power of the Internet, the benefits to be derived from being connected to the information superhighway. All LGs (local governments) in this country can afford a VSAT or BBB node, only that they didn't know. I told some recently and one asked, "Emmanuel, how much?" He couldn't believe how cheap it was. LGs have a lot of money … I can tell you this that because politicians want to go to the street or a small building and cut a ribbon to

---

[53] Ajayi, Gabriel, personal interview in Abuja, November 2001

> commission something, or a plaque on the wall … as soon as one (local government chairperson) starts, they will all want to do it. We want to ride on that Nigerian mentality and give them their scissors to cut the ribbon to commission their BBB/VSAT node with full Internet service in their local government (headquarters) with a plaque saying it was done in their time.[54]

Concerning access, especially for the majority of Nigerians who live in the rural areas, Ajayi said the public service information network with its hub at the NITDA headquarters would expand access. Also, in creating the state and local information infrastructures (SII and LII), a lot more people would have access to ICTs. For instance, local backbone (bulk data communication network) would be set up in local government headquarters via VSAT. At the state government level, broadband wireless connections would be used. These technologies leapfrog traditional fixed-telephone line connections in ways that bypass lack of infrastructures in the rural areas. Also mobile Internet units (similar to the mobile library) would travel to various parts of the country and stay for a week – long enough to train local people such as teachers and nurses on how to use the Internet. For subsequent access, Ajayi said the people could travel to the local government headquarters to use telecentres.

Prior to the publication of the NPIT but especially since, many government organizations had started the process of computerizing their work. But as will be discussed in the next chapter, these efforts were still far from the goal of raising an IT-aware population. Also, policies in other sectors of the economy and society seemed disconnected from the objectives of the NPIT. For instance, while the National Policy on Education makes

---

[54] Ekuwem, Emmanuel, personal interview in Lagos, November 2001.

"introductory technology" a core course at the junior secondary school level (equivalent of grades seven to nine), it includes "computer education" as one of five courses (to choose one) in the group of pre-vocational electives. At the senior secondary school level (equivalent of grades 10 to 12), students are given the option of taking "computer education" from a list of 18 "vocational electives" out of which they must not choose more than two courses. Indeed, the third edition of the national policy on education (1998) seems so far behind the new hysteria about how the government will "use IT for education." The NPIT aims at transforming the education sector at all levels – primary, secondary and tertiary – but its implementation appears based on an understanding of ICTs as technologies exclusive to some sectors of the society. For instance, computers will be made available to students in the country's 85 elitist "unity" secondary schools, with no plans to extend the program to the millions of other students (primary and secondary) not "lucky" or privileged enough to attend a unity school.

4:6 Contributions of the private sector

Through the release of the policies on ICT, the Nigerian government has prioritized ICT development thereby substantially increasing awareness. However, as noted earlier, initial efforts at connecting Nigeria to the global information society began outside of the government. For instance, the state did not "bring the Internet" into Nigeria. Rather, an individual, Ibukun Odusote, through the assistance of some international organizations began reaching out to the outside world electronically in 1995. Since then, several groups and associations have emerged. These include the Computer Association of Nigeria, Information Technology Association of Nigeria, Institute of Software Practitioners of Nigeria, Association of Telecommunications Operators of Nigeria and Computer Professions Registration Council of Nigeria. It is in recognition of the role of these organizations in the development and diffusion of ICTs in the country that their representatives have been appointed to the board of NITDA. Of course, in typical Nigerian style, the sector has thrown up numerous associations whose activities sometimes duplicate each other thus creating room for turf wars (as occurred between two of the associations in Fall 2001). The myriad associations reinforce the view of Tajudeen Oyawoye, special assistant to President Obasanjo on IT, about the deliberate efforts by some groups to mystify ICTs.

> There's a lot of money to be made from mystifying fairly simple things … The more people know about computers, the more they will know that it's no big deal … First thing to do is to get people away from thinking that this (IT) is so wonderful (whereas) it is rather mundane.[55]

To sustain the myth about IT, a lot of Nigerians are parading around with promises of offering "IT solutions." Already there is a debate in the country surrounding who qualifies to be called an IT professional. The debate is undergirded by a move toward making the category "exclusive" – through licensing, certification and registration – even as the very nature of the technologies and the information age generally deny the exclusivity of knowledge. As in many countries, the fastest growing businesses in many Nigerian big cities are IT-related. The most common of these businesses are "cyber cafés" – fee-based places where anyone can access the Internet and make Internet phone calls. The more comprehensive cyber cafés offer other services such as fax, word-processing and training. Another business in the IT sector in Nigeria is computer training with "computer schools" mushrooming in many cities in the country, raising concerns about the quality of the training that students receive. (This is discussed fully in Chapter 7.) While the elites complain about the quality of these schools, many Nigerians are concerned about the high cost of acquiring computer training. For instance, about 70% of the participants in the questionnaire portion of this research cited this as a major hindering factor in the development and spread of ICT use in the country. They suggested that the cost should be reduced, especially through government subsidies. Some schools such as Omo-Ettu's are offering training packages to suit various categories of people. For instance, Cyberschuul trains journalists at "marginal profit," students at cost, while disabled people can acquire the training at no cost. Other schools offer scholarship packages to attract needy students who might be discouraged from seeking IT training by the cost of tuition.

---

[55] Oyawoye, Tajudeen, personal interview in Abuja, November 2001

It is one thing to have the training and another to have access to the technologies. Several initiatives have been embarked upon to address this. The private sector and some individuals are supplementing the efforts of the public sector by adopting "computerize-Nigeria" initiatives. In December 2001, ITAN launched a ₦500-million project called, Computers In Schools Initiatives (CISI). At the event in Abuja, different organizations and individuals donated computers and related peripherals to the organization for onward donation to schools across the country. Zinox Technologies, the manufacturer of Nigeria's first computer, also made "computerize Nigeria" its key slogan. Two months after the launch of Zinox computer systems in October 2001, the company's personnel traveled around the country to raise computer awareness among Nigerians. Leo Stan-Ekeh, chairman and managing director of Zinox Technologies, denied that his Computerize-Nigeria project was a gimmick to sell Zinox products. He said his message was: "acquire computers, use computers and not necessarily buy Zinox computers."[56] The company was also spending ₦10 million to build and equip a computer science lab for a federal university of technology located in the eastern part of the country.

4:7 Critical and feminist reading of Nigeria's policies on ICTs

The National Policy on Telecommunications was buffeted by several controversies emerging from interest groups who faulted both the contents and format of the document. Most of the criticisms emerged from strong enough quarters (mostly private sector individuals and organizations) that the government withdrew the document for review and in the end, it took three attempts – 1998, 1999 and 2000 – to produce a document that is generally acceptable by the different stakeholders in the country. Even then, the NPT is not a perfect document and its implementation has several shortcomings.

First, the policy, despite the reviews to correct it, still conceives of telecommunications too narrowly as telephony. And even this definition has been further narrowed in the course of implementation to refer to just mobile telephony. The NCC, the policy's implementing agency, has devoted a greater percentage of its resources to mobile telephony to the neglect of other areas of telephony – such as increasing general telephone density especially rural telephony. In a former version of the NPT, there was the requirement that operators of cellular telephony must provide a certain number of fixed-lines as well as services in the rural areas. But this condition – essential to increasing teledensity and taking telephony to the rural areas – disappeared from the 2000 version of the NPT. As it is, the licensed operators are likely to provide the services that demand minimum overhead costs in areas where they are assured of maximizing their returns. For instance, when the GSM networks were rolled out in August 2001, two of the three operators launched their services simultaneously in Lagos, Abuja and Port Harcourt. Lagos, a city/state of more than ten million people, and one of the "high-tech cities" in the country was a natural first choice. Previously the country's capital city, it has always been the economic hub of the country. Port Harcourt, often referred to as the "oil capital of Nigeria," was also an economic decision. All the oil companies in Nigeria (with many having their corporate headquarters in Lagos) operate from Port Harcourt, capital city of Rivers state in the Niger Delta region where most of Nigeria's oil comes from. The population of Port Harcourt is also considerable. The choice of Abuja was both economic and political: it is the federal capital. While its population is not significant, it is a very affluent one benefiting from the presence of the bureaucracy (and access or proximity to government has always translated into economic gains in Nigeria). Two months after the launch, Econet, one of the three companies, opened shop in Uyo, capital of Akwa Ibom state, one of the oil states in the South. While Uyo is fast becoming an affluent town, it was not for the money of the potential subscribers that attracted the phone company. The state government had invested US$60 million in the company and a major part of the deal was that Uyo would be one of the first places from where to offer mobile telephone services.

---

[56] Stan-Ekeh, Leo personal interview in Lagos, December 2001

Since the launch date, the GSM operators have expanded and set up base stations in other parts of the country. The choice has always been driven by their need to spend less on overheard costs while maximizing their returns. And if this trend continues, it is going to be a long time before rural telephony is developed in the country. Prioritizing the development of cellular telephony in the country to the neglect of landlines may not be the best route to the information society. While landlines may belong to the scrap heap of "antiquated technologies," they may still be the solution especially for rural telephony in Nigeria. For one thing, the framework is already present in many parts of the country – electricity and railway lines – and can be extended and adapted for voice and data transmission.

The National Policy on Information Technology (NPIT) was better received by the public than the NPT was. But it too had its problems, some of which have been raised by two of the organizations that contributed to the drafting of the policy, the Computer Registration Council of Nigeria (CPN) and the Computer Association of Nigeria (COAN). First, the associations criticize the definition of IT in the policy. According to the policy, IT means computers, ancillary equipment, software and firmware (hardware) and similar procedures, services (including support services) and related resources. It includes equipment or interconnected system or subsystem of equipment used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information. The CPN said this is a verbatim definition of IT as contained in the US National Defence Authorization Act of 1996, a definition that "was given with respect to certain government organs and relation to the use to which these resources and equipment are put and how they are used."[57] The association argued that a definition of IT in the policy of a government agency should not be used in a country's national policy because "it is erroneous to see IT as just a collection of pieces of electronic equipment and related resources."[58]

> IT involves equipment, objects, systems, processes, procedures, techniques, methodologies, practices, tools, and concepts, as well as people with particular knowledge, skills and attitudes, all having to do with the processing of data and the acquisition, storage, retrieval, presentation and transmission of data and information, efficiently and efficaciously. It involves the application of science to and its advancement in the development, deployment and use of these.[59]

While the CPN's criticism may border too much on semantics, a second problem with the NPIT lies in the fact that it seems to have given itself a task too huge to accomplish. As in many earlier efforts to formulate a development plan for Nigeria, the policy is filled with slogan-sounding declarations and it is difficult to envisage its actualizations. For instance, under the sector on human resource development, one of the policy's strategies for developing globally competitive quality manpower in IT and related disciplines is to establish "facilities for electronic distance learning networks and ensure effective Internet connectivity, which will provide opportunities for educationally disadvantaged areas to educationally leapfrog into the modern era."[60] At the level of practice, the policy, through NITDA, will enable the setting up of about 62 rural Internet resource centers (ten in each of the six geo-political zones in the country and two in Abuja) supplemented with Mobile Internet Units – which, as the name implies, will move from place to place to offer Internet service. Even if the government eventually provides an Internet resource center in each of the 774 local government areas in the country, this would still be a long way from achieving the policy goal of using ICTs to help educationally disadvantaged people to catch up with the rest of the citizens.

---

[57] Johnson, Oluwatosin, "COAN, CPN Fault National IT Policy," *Thisday*, Vol. 7, No. 2244, June 14, 2001, p.18

[58] Ibid.

[59] Ibid.

By the end of 2001, 100 secondary schools were to be provided with 1000 computers – just one step in the journey toward IT literacy. There are at least 6,400 secondary schools in the country. Assuming that 1,000 students are enrolled in each of the 100 secondary schools to be provided with ten computers, the ratio of students to computer would be 100:1. Again, assuming that students take turns in groups of ten at the computer lab and each has direct access to a unit, it is still a stretch to expect that each of them would – at the end of six years of secondary school education (excluding holiday periods) – acquire enough skills to meet the policy's objectives. Also, as has been experienced already in Nigeria and other developing countries, the presence of ICTs is not a sufficient condition to achieve an IT-literate population. Kalu (2000) writes about how the lack of maintenance culture has always retarded efforts at the adoption of "foreign" technologies for economic development in Nigeria. And in the context of ICTs, this is even more so given the lack of trained teachers to instruct students and technicians to maintain the systems.

---

[60] Federal Republic of Nigeria *National Policy on Information Technology,* 2001, p.1

Thirdly, and related to the above point, the NPIT proceeds from the premise that the only missing factor in Nigeria's development efforts is IT literacy or acquisition. The assumption is that when once IT is supplied – as physical technologies or the know-how – Nigeria will be on its way to achieving the policy's vision statement of becoming a "key player in the information society by year 2005, using IT as the engine for sustainable development and global competitiveness."[61] The policy is silent on the intersection of policies in other sectors of the economy with its own goals and strategies of implementation. As observed earlier, there is no mention of IT skills acquisition in the National Policy on Education even as the Ministry of Education is making IT training part of the curriculum in the 85 unity schools – less than one percent of the 6,400 secondary schools in the country.

In any case, even if IT were integrated in the curriculum of *all* secondary schools in the country, the drafters of the IT policy seemed unaware of the fact that most children in countries such as Canada and the United States start learning about ICTs right from pre-school age. And if Nigerians want to be globally competitive, "using IT as the engine for sustainable development," then they are already starting off from a position of disadvantage if they wait until secondary school to acquire IT skills. Indeed, as seen before 2000, many of the dot.com CEOs and millionaires in Western countries (particularly the United States) were still in their teens. Early exposure to ICTs had equipped them with the skills to see the economic potentials in technologies that they probably first related to as toys.

---

[61] Ibid., p.iii

The provision of IT training and equipment to students of the country's 85 unity schools is problematic on another level. Many of those with access to secondary education at unity schools come from an already privileged socio-economic sector. They are therefore more likely to live in the cities and in homes where computers are available. They are also more likely to attend "computer schools" during the school holidays. The additional access to IT in their unity schools further grants them privileges unavailable to the millions of their colleagues who attend non-unity secondary schools, particularly community-funded schools in the rural areas.[62] While top officials in the Federal Ministry of Education take pride in their proactive approach to diffusing IT literacy through the unity schools, they are unwittingly digging the abyss that will constitute the socio-economic (or digital) divide between the haves and have-nots of the future. IT cannot empower "children, women and the disabled" as the NPT envisions if the access structure already lays the foundation for the future disempowerment of millions. It will certainly not lead to the kind of development that will meet the needs of the majority of Nigerians.

---

[62] To refer to someone as a student or graduate of a "community" or "village" school is considered highly insulting because of the stereotype that since these schools are generally poorly funded, the education obtained there is substandard.

Fourthly, besides the seeming disconnection between lofty goals and modest implementing strategies, there are several infrastructural and institutional constraints in the Nigerian environment that are likely to present major obstacles in the development and diffusion of ICTs for socio-economic goals (and these are discussed in Chapter 8). It may not be enough therefore to simply have the technologies if the other enabling technologies (or supporting industries) such as electricity are absent (or inefficient).

Fifthly, the policy seems to be depending too much on the private sector. As is already evident, this sector is not in the charity business but wants to make money – lots of it. Certainly, profits made by the private sector, as employers of labor, will contribute to increased economic activity especially in the areas of goods and services. However, if the government plans to use ICTs in the achievement of national socio-economic goals, then it needs to be more involved in the development and diffusion of the technologies, rather than leave everything to the private sector. In other countries, such as Canada and Britain, the state, though a late entrant, has stepped in to harness these technologies in ways that contribute to the greater good.

Sixth – and a more fundamental problem – the Nigerian policies on telecommunications and ICTs were conceived and written by men without any acknowledgement of the role of women in the process of socio-economic development. The National Policy on Telecommunications (NPT) does not refer to women at all, presumably conceiving telecommunications as non-gendered technologies – both in their development and applications. The IT policy prescribes a role for women – but merely in the area of creating awareness for the technologies, using "women's intrinsic abilities to propagate positive values within the society."[63] Elsewhere in the document is a plan to "empower children, women and the disabled by providing special programs for the acquisition of IT skills" (Ibid. p.4).

The paradox is that at the level of utilization of the basic ICTs such as the telephone, anecdotal evidence and observation indicate that women's involvement is more significant than is generally acknowledged. First, in many communication centres (variously called telecentres, cyber cafés and business centres), women are hired as clerks, cashiers and administrative assistants. They handle the accounting part of the business. In centres that operate self-service, women are in charge of sales of the tickets that grant access to the computer systems, and keep track of how much money comes in. They also help customers in such areas as typing up letters to be sent out as e-mail and other secretarial duties including school projects (term papers), job applications and other documents. This certainly indicates a continuation of the role of women in the "pink collar professions." In Nigeria, as in many other countries, of those engaged in such work as typists, stenographers and secretaries, women have been in the majority. This skill has now been transferred to the ICT environment with the typewriter giving way to the computer. "In fact, when they first appeared on the scene, 'computers' were very much part of women's spheres; after all they replaced the typewriters and women were the clerks and the ones with keyboard skills." (Spender, 1997: 139)

---

[63] Ibid. 15:2

One notes the danger in making a case for the inclusion of certain groups in any process. In the case of women, there is a tension in feminist theorizing between those who argue for the liberal approach of integration through education and the legal framework, and the radical approach of seeking for structural changes to avoid the integration of women into the very structures of inequality that have always marginalized their participation. The first approach always sounds like women are asking for special favours (or affirmative action). While integration has the potential to address inherent inequalities and thus empower women, there is a risk of reinforcing the stereotypes of women as less than equal with men. The structural approach, on the other hand, proceeds from a threshold that women in developing countries such as Nigeria have not yet attained. In the discourse of women and technology this tension is particularly prevalent especially given the common themes in the literature – access, problems of utilization and loss of income when new technologies erase women's jobs.

These issues are particularly relevant for Nigerian women who make up nearly half of the Nigerian population (according to World Bank statistics) and their participation in the process of development in the country has always been significant, especially in the informal economy where they play very active role as market women and petty traders. In fact, Nigeria's economic and political history cannot be written without reference to the role of women such as in the famous Aba Women's Riots of 1929. During the riots, market women and petty traders took to the streets to protest the colonial taxation laws, leading to a reform of the system. Some two decades later, Egba women (in the southwest) also pressed for political changes, reminding the colonial administration that in many pre-colonial African societies, women were visible and active part of the economic, social and political processes. Incidentally, the colonial legacy (itself inherited from the Industrial Revolution of the West) of the split between the public and private spheres has continued to circumscribe the role of modern day Nigerian women such that the NPT completely ignores women and the NPIT barely acknowledges them.

Policies that seriously consider the potential that the new ICTs hold for socio-economic development cannot ignore the role of women in the process. It is not a stretch to argue that when policies do not pay attention to the role of certain sectors, their implementations will not correct this oversight. For instance, the two Nigerian policies stress the role of the private sector as the "drivers" of ICT developments. Ongoing implementations continue to highlight the importance of this sector. Conversely, the silence on the role of women is also reflected in the implementation of strategies that continue to perpetuate the perception of women and girls as those who "don't do technology."[64] Though women make up about half of the population, yet very few of them are involved at the policy level in the ICT discourse. There probably were a few women who participated in the discussions leading up to the formulation of the policies, but not a single woman was on any of the drafting committees. The most visible woman in the public sector, as at 2001, was the deputy minister in the Ministry of Science and Technology, Pauline Tallen, who often appeared as the lone female on the "high table" of many ICT-related events. But it is interesting that the person most recognized as pivotal in "bringing" the Internet to Nigeria is a woman – Ibukun Odusote – who now heads the IT unit in the Federal Ministry of Information and National Orientation. Even then, the story of the Internet is being re-written by the men such that Odusote has become a footnote.[65]

---

[64] Mayfield, Kendra, "Why Girls Don't Compute," *Wired News*, April 20, 2000. Available at: http://www.wired.com/news/culture/0,1284,35654,00.html

Admittedly, the pervasiveness and sophistication of ICT usage in Nigeria are so low that one cannot legitimately make a case for gender equality. As some of the participants in the questionnaire part of this research commented, "gender has nothing to do with IT:" if the technologies are available, accessible and affordable, everyone will use them – including women. Still, one argues that if ICTs are to be used for economic development, it is important to deliberately integrate the role of women in the process early in the discourse. Failure to do so is to risk a replication of past mistakes where women were added on as after-thoughts in such programs as Women in Development, Women Education and Better Life for Women prevalent during the Babangida years in Nigeria.

One admits that technology always marginalizes women because of the perception that the sector is a "male domain." But this is changing in many parts of the world. Even in a culturally restrictive country such as Saudi Arabia, a high number of Internet users are women. This medium offers them a virtual "public sphere" to compensate for restrictions imposed by their society. In the United States, there is a near gender parity among Internet users, an improvement from a few years ago: in 2000, 57% of American women were online everyday (as against 63% of men).[66] And women in the United States are staking a territorial claim in this brave new frontier, not merely for personal usage but are making money out of the new technologies. For instance, www.ivillage.com, www.WOWfactor.com, www.Webgirls.com, www.babycenter.com, www.Oxygen.com, www.epregnancy.com and www.pregnancy.com are economically successful websites owned by women and exclusively for and about women and their concerns. With the potential for women (including Nigerian women to make money on the WWW), policies on ICTs in Nigeria cannot be considered complete unless they acknowledge the participation of women in the process of socio-economic development, particularly their role in harnessing ICTs as tools for economic growth.

---

[65] During the personal interviews, I asked about the early use of the Internet in Nigeria. Many of the interviewees mentioned Odusote as an after-thought. And she herself confessed that over the years, there had been so much "politics" over the issue that she decided to "get out of it."

4:8 State and private sector alliances

Some of the secondary research questions for this dissertation concern the ICT policy framework in Nigeria. These are: 1) What is Nigeria's policy on information and communication technologies, and what factors drive this policy? Are policymakers' conceptions of ICTs integrated with the country's overall economic goals? 2) How does government perceive its role in the acquisition and use of ICTs, and consequently their application as strategies for socio-economic development? Who are investing in ICTs? What is the role of the private sector? These questions are addressed directly and indirectly throughout the empirical chapters of this dissertation (starting from the present chapter). A single chapter can therefore not purport to deal with all the ramifications of these questions. However, in addressing the policy framework and some of the emergent issues in this chapter, one can attempt to respond to some of these questions.

---

[66] The Pew Internet and American Life Report, *Tracking Online Life: How Women Use the Internet to Cultivate Relationships with Family and Friends* (2000) p.11

Nigeria certainly has policies on ICTs and these are the National Telecommunications Policy (NPT) of 2000 and the National Policy on Information Technology (NPIT) of 2001. They are clearly driven by private-sector and market interests. Government officials in newspaper reports and in personal interviews during the research constantly expressed the point that "government has no business in delivering communications" and is divesting its interests from all communication-related enterprises. They see the role of government as that of regulator and facilitator of an enabling environment for private-sector initiatives. President Obasanjo is often reported as saying that the new Nigerian economy will be market-oriented, private sector-led and technology-driven. While this development may raise concerns about the possibility of equitable distribution of resources in the country, to some extent, this new emphasis on the private sector as the "engine of growth" is well received by many sections of the Nigerian society. Government enterprises (such as utility companies) have been notorious for incompetence, poor services and are often viewed as drains on public resources. Thus, the belief is that if the development of ICTs is made the responsibility of the private sector, Nigerians would see wider and more intense diffusion of the technologies, and thus of their usage as tools for socio-economic development.

So far, the private sector is fully involved in the development of ICTs in the country. The mobile service providers are all private entrepreneurs as well as those investing in the manufacture of IT components. A major private-sector contribution is in the training of IT personnel. While the quality of some IT schools is suspect, the private sector is investing – far more than the government – in the development of human resources in this area. Of course, in Nigeria where personal rule and political patronage still dominate – even in the current era of a democratically elected civilian government – private and public interests are constantly in an alliance – often to the disadvantage of the people. Many people and companies involved in ICT are recipients of government patronage through inflated contracts and services. For instance, it is common for an IT trainer to lobby for a contract to organize a "training workshop" for federal government employees, charging exorbitant fees for what are sometimes simply weekend or week-long events. In another instance, Zinox Technologies, manufacturers of the first "Nigerian computer" has managed to secure the endorsement of the federal government and is said to be its sole supplier of computers and related components. In the process, government is indirectly involved in the development of ICTs in the country often paying more than if it had participated more directly in the acquisition of the technologies and training. This therefore raises concern that with profits as the motivations of private sector organizations, the ultimate goal of socio-economic development through ICTs may not be achieved.

While private-sector interests drive the policies on ICTs and their implementation to date, the policies are not so clear about the relationship of their objectives and strategies of implementation with policies in other sectors of the economy. For instance, the National Policy on Education seems behind developments in the ICT sector as it still provides "computer education" as one of 18 electives for secondary school students. And even the most ambitious sections of the NPIT on education and human resource development seem to overestimate the extent to which the current strategies of implementation can achieve the policy's lofty objectives and targets. Also, with so many actors on the stage, most of whose roles are contradictory and duplicating, there is need for a more coordinated effort among the different government agencies, and private sector interests in order to achieve overall socio-economic goals.

4:9 Conclusion

In this chapter, I have discussed the two major policies on ICTs in Nigeria, their implementations and the contributions of the private sector. I have also analyzed these policies from a critical and feminist perspective, as well as discuss the dialectics in the relationship between the state and the private sector in the harnessing of ICTs for socio-economic development in the country. One concludes by drawing attention to some of the critical issues that the analysis in this chapter raises. These are: the state/private sector relationship and the problems with the policies on ICTs and the initial efforts at their implementation.

First, one reiterates the point that there seems to be an over dependence on the private sector for the development of the ICT sector. While this is not necessarily a negative thing, there is an inherent conflict between the goals of the state and the private sector. By definition, the state (or sovereign) has a responsibility to the people. One of Adam Smith's duties of a sovereign is the undertaking of social works – income distribution, employment and stabilization. On the other hand, the most important objective of private sector organizations (at least those involved in the ICT sector in Nigeria) is profit-maximization. Even the "professional" associations such as the Nigerian Internet Group (which claims to be a non-profit organization) are umbrella groups for people and corporations involved in for-profit ICT activities. Admittedly, these groups, such as the Information Technology Association of Nigeria organize non-profit events, raise awareness about ICTs and donate computers to secondary schools. But one can see how raising awareness about computers in the short term will translate into a sale in the medium-to-long term. With such clash in the goals of the state and private sector, it is unlikely that ICTs can be harnessed successfully as tools for socio-economic development (defined broadly).

Second, the National Telecommunications Policy (NTP), despite the many revisions it has gone through, still defines information technology too narrowly as telecommunications – specifically mobile telephony. This understanding is also expressed in the implementation of the policy such that there is a strong emphasis on developing mobile telephony to the neglect of other telecommunication infrastructures such as expanding the public switched telephone network (PSTN) to increase access to the national telephone grid. Third, while the ICT policy does make up for the shortcomings of the NTP, it too defines information technology too narrowly. But beyond that, the policy contains more sloganeering than real intentions to harness ICTs for development. Its goals and visions seem so far removed from the realities – especially the lack of basic infrastructure on which ICTs depend – with its strategies for implementation failing to match these visions and targets. The policy is framed around the understanding that ICTs – both their the acquisition and training – are the only missing factor in Nigeria's attempts at development, without acknowledging the problems that scuttled past development plans.

Finally, the silence on the role of women in the development process already raises red flags over the possibility that ICTs in Nigeria can be used to achieve socio-economic goals. Women make up about half of the Nigerian population and are actively involved in the informal economy as market women, farmers and small-scale producers. Already, the failure to acknowledge the role of women manifests in the absence of women at ICT decision-making levels, with policymakers continuing to conceive of the ICT sector as a male domain and women recipients – or objects – of ICT programs. These issues need to be addressed if President Obasanjo's eventual preference for "new-fangled ideas of globalization and information technology" are to facilitate the development of the "technology to produce food and pound yam" – translated as basic and locally appropriate technologies that help to meet the basic needs of the Nigerian people – food, clothing and shelter. And in a country where the per capita income is less than US$300 (worsened by a wide income disparity), these are needs currently not attainable by a majority of the people.

From a discussion of the policy framework and action of the state, one logically goes on to examine ICT in practice. In the next chapter, I present an analysis of the levels of ICT usage in key public sector ministries and interviews with policymakers are presented. The purpose is to understand the ways that these policymakers are implementing the policies (and their slogans) about ICTs at the basic level.

References

Achebo, Nubi, in a posting sent to Naijanet@esosoft.com, Feb. 27, 1999

Aragba-Akpore, Sonny, "NITEL, MTS may be favored for mobile phone permits" in The Guardian Online – http://www.ngrguardiannews.com Accessed Feb. 22, 2000.

– "NCC has powers to issue all telecom licences, says Arzika," *The Guardian*, Monday, July 3, 2000, pp. 58-59.

Bada, Abiodun, "Local Adaptations to Global Trends: A Study of an IT-Based Organizational Change Program in a Nigerian Bank," *The Information Society*, Volume 18, Issue Number 2 (March 1, 2002)

Castells, Manuel, *The Rise of the Network Society*. (Cambridge, Massachusetts: Blackwell Publishers, Inc., 1996)

Chiahemen, John, "Earthy image dogs Nigeria's Obasanjo," a Reuters wire story, Feb. 26, 1999.

Daily Champion, "Telecoms expert, Nnama urges Nigeria to embrace 21 century IT," Nov. 2, 2000

Famakinwa, Samuel, *This Day*, Oct. 25, 2001, p.35

Federal Republic of Nigeria, *National Policy on Information Technology*, 2001

– *National Policy on Telecommunications*, 2000

– Decree *No. 75*, 1992

International Telecommunications Union, ITU-D Country Database, June 2002. Available at http://www.itu.int/ITU/CDS

Johnson, Oluwatosin, "COAN, CPN Fault National IT Policy," *Thisday*, Vol. 7, No. 2244, June 14, 2001, p.18

Kalu, Kelechi A., "Perspectives on Technology and Economic Development in Nigeria," in *Journal of Third World Studies*, Vol. XVII, No. 1, 2000.

Madamkor, Moses, Report on Investment Incentives in Nigeria to the Telecommunication Development Bureau, ITU-D Study Groups, July 9, 2001.

Madamkor is an assistant director in the technical services division of the Ministry of Communications, Abuja.

Mayfield, Kendra, "Why Girls Don't Compute," *Wired News,* April 20, 2000. Available at: http://www.wired.com/news/culture/0,1284,35654,00.html

Obijiofor, Levi, "Singaporean and Nigerian journalists' perceptions of new technologies." *Australian Journalism Review,* Vol. 3: 1 (July 2001), p.131-151

Olufuye, Jimson, "The state of IT practice in Nigeria" in *The Guardian*, July 24, 2001

Onyekwere, Chima, quoted in Famakinwa, "Venture Capitalists Should Encourage Netpreneurs," *This Day*, Jan. 29, 2001

Oti, Andrew, "Nigeria needs rural telephones," *Daily Times,* Jan. 10, 2000.

Saturday Tribune, "It's cheap on paper, costly in reality," June 17, 2000, p. 11.

Sotunde, Iyabo, "Imperatives of Information Technology, By Obasanjo," *The Guardian,* August 11, 2001

Spender, Dale, "The Position of Women in Information Technology – or Who Got There First and with What Consequences?" in *Current Sociology* April 1997, Vol. 45(2)

The Pew Internet and American Life Report, *Tracking Online Life: How Women Use the Internet to Cultivate Relationships with Family and Friends* (2000)

Usoro, Paul, "Matters arising on mobile wireless licensing," *The Guardian*, October 31, 2000, p.43

Chapter 5

Information and communication technologies in the public sector: Usage and diffusion

5:1 Introduction

It sounds like one of those sermons that Jesus gave on occasions to the multitudes that gathered around him. The time is coming, and now is the time, when you will walk into a hotel lobby and everyone will know who you are because you have your cell phone on you. The phone will send signals to the hotel's central information system. By the time you get up to the reception clerk, she already has your personal and payment information, and preferences on screen. As you stand in front of her, she says, "Welcome, Ms. X, here's your room key, please sign here." It is a scenario right out of the manual of proponents of the new society that will be ushered in by new information and communication technologies (ICTs). These technologies will permeate every part of our lives, says Etim James Amana, a civil/structural/hardware engineer and managing director of Management Information Systems, a Nigerian engineering consultancy firm which he co-founded with his older brother, Mfon. "This is why we say ICT is the future – not just the future for making money, but what we do on a daily basis. This is why everyone has to join the bandwagon."[1]

Amana got into the ICT business as early as 1982 – long before it became a "bandwagon." His firm was one of the earliest to use computers and software for engineering designs, but it got into providing "IT solutions" by accident. Mfon Amana had learnt that Shell Petroleum in Lagos was having problems with some computers they had recently purchased. He talked to his brother, and together, they were able to fix the problem and that led to what would be a life-long partnership with Shell in providing "IT Solutions" to the oil company. And "solutions" in Nigeria refers to not just "dropping the box" (that contains the hardware and software), but training, maintenance and support.

---

[1] Amana, Etim, personal interview in Abuja, December 2001.

> You could do things like training, Internet security (firewall, etc.). It's everything wrapped up into one – "high availability solutions." … It's important that you have to service your customer at all times. ... The customer says, (for example) "I need to run my bank, can you help me?" (Solutions then provide everything that is needed to help the customer achieve his/her goals.)[2]

Amana's company grew from three employees in 1982 to 160 in 2001 with branches across the country, and a turnover of US$9 million in 2000. And now, Amana quietly smiles at the awe and mystery that frame the discourse on ICTs in Nigeria, but even this and the fact that he got into IT long before it was fashionable do not diminish for him the importance of the technologies. To underscore this, his company developed a futuristic video that extols the importance of ICTs along the same lines as the introductory paragraph in this chapter. Occasionally, also, Amana gives talks on ICTs to students in the secondary school where his children attend. He has become one of the teeming evangelists of ICTs in Nigeria who believe and preach about the soon-coming ICT utopia.

In news reports, feature articles and letters to the editor in Nigerian newspapers, there is a sense in which a casual observer might conclude that Nigeria is already living the ICT dream, and therefore fully integrated in the global information society. Besides the propagation of the marvels of ICTs in projects such as Amana's video and other efforts by private-sector interest groups, Nigerian "IT journalists" have also caught the IT fever. These journalists commonly preface most words with "e-" (as in electronic) to unequivocally assert the point that the world without "e" is over, and the e-revolution is on. Thus, e-commerce, e-banking, e-education and other e-words dominate "IT pages" in the print media and ICT-related conferences and workshops. Trade exhibitions and "trade expos" are organized regularly by the various ICT-related associations to showcase the latest gadgets in the world of ICT. And these gadgets fuel the dreams of ICT optimists (such as those interviewed during this research) about the coming information (or digital) revolution. The potentials of ICTs are certainly enormous and optimists have reasons to be excited about the endless possibilities of these technologies and their capacity to help Nigeria leapfrog from its largely pre-industrial age to post-industrialization. But do the current realities in Nigeria support this optimism and the visions of journalists and IT enthusiasts such as Amana?

---

[2] Ibid.

One of the secondary questions of this research is: what is the status – or level of penetration – of ICTs in Nigeria? This chapter is aimed at partially providing the answer to this question by presenting the results of investigation into the level of ICT penetration and usage in the public sector – as represented by some federal government ministries and departments central to the diffusion of ICTs in the country. The general context of analysis is set against the primary question of this research on the acquisition and utilization of ICTs as tools for socio-economic development in Nigeria. One argues that to make valid claims concerning the relationship between ICTs and socio-economic growth in developing countries, it is necessary to examine the ways in which these technologies are used deliberately to achieve socio-economic goals.

In the previous chapter, I focused on Nigeria's ICT policy framework and the two policies that have been formulated to provide guidelines and regulations for the ICT sector. I argued that flawed as these policies are, they provide a starting point for the development of ICTs in the country, especially as they signal government's intentions to prioritize ICTs as tools for socio-economic development. As a follow-up to the discussion and analysis in Chapter 4, this chapter sets out to achieve one main goal: to empirically connect the policy framework to ICT practice by examining, through observation and personal interviews, the levels of ICT penetration and usage in the office of the Nigerian president and six federal government ministries and departments considered crucial to the development and diffusion of ICTs in Nigeria. The ministries are those of: Education, Information and National Orientation, Communications, and Science and Technology. The departments are the Nigerian Communications Commission and the Nigerian Information Technology Development Agency – both of which are responsible for the implementation of the policies on ICTs. This portion of the research also included personal and semi-structured interviews with 12 policymakers and public-sector officials (eight men and four women), many of whom are involved in the implementation of projects geared toward diffusing ICTs in the country.

This chapter presents the result of the research, conducted between October and December 2001 in Abuja. Analysis of the data compels the following conclusions:

- ICTs are yet to pervade work practices in Nigeria's public sector;
- ICT usage in Nigeria's public sector is still at the basic (or conventional) level;
- The low level of ICT usage and penetration in the public sector is conversely proportional to the euphoric claims of public officials and policymakers who see the technologies as the panacea for the country's economic problems;
- Private-sector interests and for-profit organizations appear to be the immediate beneficiaries of the ICT-for-development discourse through ICT supply and consultancy contracts;
- Policies on ICTs are yet to be translated into actual practice in ways that directly address socio-economic problems.

One calls attention to these points throughout the chapter, organized around four sections, including this introduction. In the next section, I discuss the patterns of ICT usage in the Presidency and six departments and ministries. This is followed by an analysis of ICT usage and diffusion in Nigeria's public sector, using a framework developed by the Mosaic Group.[3] In the final section, I briefly discuss the prospects for the future given the level of ICT usage and diffusion in the government agencies studied.

The Mosaic framework consists of six dimensions that assess the development and status of ICT diffusion in a country, and several determinants that influence the development and diffusion of ICTs. There are two sets of dimensions. The first, which measures the extent of ICT presence and use, consists of pervasiveness, geographic dispersion, and sectoral acceptance. The second set is made up of structural variables: connectivity infrastructure, organizational infrastructure and sophistication of use. Another set of variables – determinants – analyses the conditions that affect the development and current status of ICTs, and are likely to influence future developments. These conditions include government policy, culture and resources (human, financial and technology). Only three of these variables – pervasiveness, sophistication of use and sectoral absorption – are relevant to the present discussion. Others are therefore excluded.

---

[3] Wolcott, Peter, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis (*A Mosaic Group Report January 1997).

5:2 Patterns of ICT usage: Who uses what, when and how?

To investigate the patterns of ICT usage in the public sector, four ministries considered pivotal to the development of policies on and diffusion of ICTs were chosen, as well as the Presidency.[4] The four ministries were: Communications, Information and National Orientation, Science and Technology, and Education. The Ministry of Communications oversees the implementation of the National Policy on Telecommunications Policy (NPT) while the Ministry of Science and Technology supervises the implementation of the Nigerian National Policy on Information Technology (NPIT). The Federal[5] Ministry of Information and National Orientation was chosen because of its role in disseminating information about government policies and programs while the Federal Ministry of Education plays a major role in raising the kind of human resources expected to transform the Nigerian economy and make it globally competitive. The research was conducted in the national headquarters of these ministries mostly because major policies are formulated at these levels, with the officials generally higher in ranking than those in the state offices. Consequently, the level of ICT usage in these offices is, on the average, higher than in the state offices – in the few where information technologies were used. Besides, the two ministries most directly linked with the development of ICTs in the country – the Ministries of Science and Technology and Communication – do not have equivalents at the state level since the sectors are considered the domains of the central government. The Nigerian Communications Commission (NCC) and the Nigerian Information Technology Development Agency were also included as the implementing agencies of the policies on ICTs and whose usage of ICTs is therefore equally significant. While their functions have countrywide reach, these organizations do not have branches at the state levels.

---

[4] The Presidency is a broad term that refers to many departments and agencies that are responsible directly to the Office of the President. These departments are geographically scattered across Abuja and Lagos. References to the Presidency in this chapter are to the geographical locations of the offices of the president and vice president and their staff, often referred to as Aso Rock or Presidential Villa.

[5] While these ministries were all "federal," the prefix is used mostly to distinguish the national headquarters from their equivalents in the states (which are prefixed by their particular state – for example, Akwa Ibom State Ministry of Information). Some ministries, such as Communications, however, do not have state "branches" and can therefore be written without the prefix, "federal."

5:2:1 The Presidency

In Aso Rock, also referred to as the Presidential Villa, Abuja (office of the Nigerian president), there is no specific IT department. But many departments in different ministries claim responsibility for getting the Presidency "connected." For instance, the Ministry of Science and Technology was in the process of setting up a presidential Wide Area Network to connect top government officials so they can communicate via network and radio links. The network would connect Aso Rock, Ministry of Science and Technology (where the network's hub would be located), Ministries of Communication and Education and the office of the chief economic adviser to the president. However, as noted by Tajudeen Oyawoye, special assistant on IT to President Olusegun Obasanjo, "there are so many people involved in IT in government and there doesn't seem to be any coordination."[6] In the development of an information website for the federal government, several ministries claimed the responsibility. The Ministry of Information, the Ministries of Science and Technology, Education and Industries, NITDA and other government agencies such as National Orientation and Public Affairs (which claims to have the authentic federal government website at www.nopa.net) were all interested. "Everyone is offering the same information in different ways."[7]

> Everyone wants to be in control of IT. ... If you ask Science and Tech, they will tell you that they are in charge of IT in the country. NITDA will tell you that they are in charge of IT in the country. (Ministry of) Information, suddenly somehow, has been able to separate the phrase information technology and take information technology to mean the technology to achieve the transfer of information and so that should be their preserve. I think my own office is the only one not really thinking that we should be in charge, although I certainly have very strong views about information technology especially in government. I have very clear ideas of what I think should be happening and where the government should be going.[8]

President Obasanjo was, reportedly, also worried about the lack of coordination among the different government agencies responsible for IT in the country. He called for the establishment of a committee to monitor federal government websites and ensure that contents were both accurate and not duplicative. "Unfortunately we still have not been able to get the panel together yet, but I'm sure something will happen very soon," said Oyawoye.

---

[6] Oyawoye, Tajudeen Diekola, personal interview in Abuja, November 2001

[7] Ibid.

[8] Ibid.

While waiting for "something (to) happen" in the larger context, Oyawoye started "straightening things out" in Aso Rock itself shortly after he assumed in his new post in May 2001. He began an audit of IT usage in Aso Rock in September to provide a "fairly good idea of what they have there and what they are using the equipment for and the kind of people using the equipment. (And now) we have a fairly good idea of what they are supposed to do with the equipment as opposed to what they are doing right now."[9]

The audit showed that there were about 50 computer systems in the various offices in Aso Rock.[10] Most offices have at least one computer with some having more than one. About 90% of the computers are used mainly for word-processing, with most used programs on the computers being Microsoft Word and Corel Draw. Seven of these computers are actively connected to the Internet; five are networked to each other while the other two are networked but using a different connection. Access to the Internet from Aso Rock is limited to only the people who work in the offices where the networked computers are located. While these computers are connected, Oyawoye expressed doubt that there was much Internet activity from Aso Rock because of poor and slow connections. Each set of computers is connected to the Internet through dial-up access of the Nigerian Telecommunications Limited (Nitel), the country's primary national telecommunications operator, which is also a major Internet Service Provider (ISP). This means that the connections are very poor and slow because Nitel's bandwidth is very narrow and allows for a downloading speed of just two megabytes per second (2 mps). Nitel's narrow bandwidth presented a major problem to Internet users in Nigeria majority of whom were subscribed to Nitel, the biggest ISP in the country. Also, its access numbers are located in Abuja and Port Harcourt meaning that subscribers from other parts of the country had to dial in long distance to get connected, and the long distance charges were outside the cost of subscribing to the ISP. As a result of these two factors, customers often experienced busy telephone lines and modem pools with the result that many subscribers could spend days trying futilely to log in.

---

[9] Ibid.

[10] A computer "system" in Nigeria usually consists of the computer itself (CPU, monitor and keyboard), a printer, a scanner and one or two UPS (uninterrupted power supply) unit(s). Most computer vendors, especially when their customers are governments and organizations, usually sell a " complete system" as a single package.

Table 5-1 ICTs used in Aso Rock, The Presidency

ICTs	Used	Number	Applications
Telephone	Yes	Most offices have at least one telephone line	Conventional
Fax Machine	Yes	Unknown	Conventional
Computer	Yes	About 50 – distributed among various offices. Ten computers are located in the "Computer Room" located just outside the Presidential Villa and used for training of Villa staff	Word processing
Printer	Yes	Most of the 50 computers have a printer attached to them	Conventional
Photocopier	Yes	Unknown	Conventional
Internet via dial-up	Yes	Two connections accessed through seven networked computers, two of which are in the office of the personal assistant to the President	Basic e-mailing
Internet via VSAT	No		

Mostly secretaries, personal assistants and executive officers had access to computers at Aso Rock. They typed speeches, letters, memos and circulars for their bosses. The more sophisticated users designed PowerPoint presentations to accompany the speeches they typed. In some offices, such as the office of the personal assistant to the president, the computers are used for more complex functions like desktop publishing – typesetting and preparing materials for the president's books.[11] This office also has Internet connection through a dial-up access to Nitel. In the State House Clinic, the computers are used for other things such as stock control. Some of the senior staff had laptop computers which they said were used for personal purposes and so Oyawoye could not open them up to see what they were used for. Most of the offices have at least a telephone with full staff access. Some of the offices have a fax machine and photocopier.

There is an office outside the main Aso Rock building called the Computer Room in where there are about ten computers used mainly for training of staff. The different departments arranged training courses with outside consultants who came and trained staff in the Computer Room. Aso Rock itself does not have standard training courses, which was one of the things Oyawoye planned to set up.

> The idea is to see that anybody who has a computer on his desk can do certain basic things and can aspire to do more. It has nothing to do with his rank or job in the Presidency per se. I'm more interested in his competence. The person can be a secretary and be a very competent computer user, can do spreadsheets and financial scenario and things like that as long as he's good on the computer, it won't affect what he's doing.[12]

Oyawoye was upset at the level of computer usage in Aso Rock. He said some of the computers had Microsoft Office, but the users did not know anything about the spreadsheet or database programs that are part of the Office. He said it was even more upsetting to find analysts in Aso Rock who did not know how to use scenario analysis (an application in Excel Spreadsheet), and people who wrote strategic security reports and then gave to their assistants to type up. To bring the Aso Rock staff up to the information age, he said in November 2001 that, along with Ibukun Odusote, the head of the IT Project Unit in the Ministry of Information and the personal assistant on IT to the national security adviser, he was planning a project to get the top six people in the Nigerian government into a room for about two hours and teach them basic computer skills. The proposed students were: the President, Vice President, Chief of Staff, Secretary to the Government of the Federation, the National Security Adviser and the Head of Service.

---

[11] Before he became president, General Obasanjo wrote and published several books, including the famous *Not My Will* (Ibadan Nigeria: University Press Ltd., 1990). Sources inside Aso Rock said even now, "Baba likes to write a lot of books."

[12] Tajudeen Diekola Oyawoye, personal interview in Abuja, November 2001.

> There are things that senior staff could do with computers in their work. A lot of them don't have computers and those that do seldom turn them on. There are those who've never turned on their computers. A lot of people are afraid of looking stupid if they can't use computers or they think it's going to take them a long time to learn how to use computers. … I certainly saw offices where there are computers and they are not being used at all. I don't know if I'm biased because I've been using a computer for a long time, but I can't imagine doing anything now without a computer. I can't even be a schoolteacher without a computer. If I don't have my Notebook, I can't function, no matter what it is.[13]

Oyawoye believed a training session with the top people of Aso Rock (and eventually in all the federal ministries in Abuja) would remove the "veil of mystification about these things" and people would feel more confident about using computers, as well as other ICTs. He said while people such as the president may have more useful ways of spending their time than typing their letters and speeches, it is good if they had the skills because then, they would better direct their subordinates on the things they needed – for instance, point them to websites where certain information might be found. Odusote of the

---

[13] Ibid.

Ministry of Information and National Orientation was also "pushing seriously to take on Mr. President and some group of people for training. I also insist that they reduce their paperwork and do more things on computer."[14] She believed "leadership by example" was one of the factors that would facilitate ICT diffusion and usage in the country.

Indeed, the ignorance of ICTs by some top government officials in Nigeria is common knowledge. For instance, Vice President Abubakar Atiku admitted to ignorance of ICTs when he said at the launching of Zinox, the first "Nigerian computer," in October 2001 that he did not know anything about IT, except that he usually saw his son "*surfacing* the web all the time" (italics added).[15] While President Obasanjo is an avid book writer, it was doubtful that he knew how to use a computer. And going by his pre-election statement about "new-fangled ideas of globalization and information technology"[16] it would not be surprising to learn that he too did not "surface" the web. As at November 2001, he did not have a computer on his desk and access to the Internet was from the office of his personal assistant where the president's word-processing needs were provided.

5:2:2 Ministry of Science and Technology

The Ministry of Science and Technology gives oversight to the implementation of the policy on ICT by NITDA which reports directly to the Minister of Science and

---

[14] Odusote, Ibukun, personal interview in Abuja, November 2001.
[15] Amaefule, Everest, "Zinox, a toast to private sector initiative," *Daily Times*, Thursday, October 18, 2001, p. 15
[16] Referred to at the beginning of Chapter 4.

Technology. At the time of research, the ministry was in the process of setting up a presidential network project which would connect together the president, vice president, the chief economic adviser to the president and the ministries of science and technology, education, communications and information. The project was driven by the idea, that "information is power (and) if you don't have the right information or type, you lose out … you can't do anything without information," according to Eunice Eigbefoh, scientific officer in the Ministry of Science and Technology, Abuja.

> This is the principle behind the presidential network project. The idea is to link top government officials via a network through a radio link. It was supposed to be a wider network but was reduced because of lack of funds. The idea was to link them in such a way that they will be able to communicate, exchange information and retrieve information from one another without having to move around to get such information. The hub (with the servers), housed in the Ministry of Science and Technology, is now completed.[17]

The network would be connected to the Internet through radio links and therefore those with access to it would be able to access the Internet. It was expected that the network would be expanded in the future to grant access to a larger group of people including all the scientific officers in the Ministry of Science and Technology.[18] In the ministry itself, there were about 50 computers with a newly acquired set of 40 that were yet to be distributed. Almost all the officers in the Technology Acquisition Department had computers (or access to one) which they used for their routine assignments. The minister, deputy minister (known as the Minister of State), permanent secretary and all the directors in the ministry had a computer on their desks with a dial-up access to the

---

[17] Eigbefoh, Eunice, personal interview in Abuja, October 2001.

[18] Eigbefoh explained that the ministry is made up of two categories of staff – scientific and administrative.

Internet. It was expected that when the presidential network expanded these directors would benefit from the faster and better wireless connections.

Table 5-2 ICTs used in the Ministry of Science and Technology

ICTs	**Used**	**Number**	**Applications**
Telephone	Yes	Unknown	Conventional
Fax Machine	Yes	Unknown	Conventional
Computer	Yes	90 distributed among the top personnel and almost all the scientific officers in the Technological Acquisition Department	Word processing and task scheduling
Printer	Yes	Unknown	Conventional
Photocopier	Yes	Unknown	Conventional
Internet via dial-up	Yes	Access to the Internet through dial-up to Nitel but this would exist alongside the proposed wireless connection when the presidential information network was up and running	
Internet via VSAT	Proposed		

Eigbefoh said IT development and usage were priorities not just for the country but also in the Ministry of Science and Technology because of the importance of information technology as "a tool that can be used virtually for everything."[19]

> It reduces the pressure on work… Computers simplify the work for us … even though we don't have enough computers … We are hoping that with subsequent training, we can actually get software that will make the job even more easier. What we are doing now is very elementary. We hope to improve as time goes on. IT has tremendous effects on reducing the volume of work and aiding one's schedule of duties.[20]

---

[19] Eigbefoh, Eunice, personal interview in Abuja, October 2001

[20] Ibid.

5:2:3 Federal Ministry of Information and National Orientation

Among the ministries where the level of ICT usage was observed, the Federal Ministry of Information had the highest level of usage of many ICTs, in terms of pervasiveness and sophistication of usage. In the first place, the ministry has an IT Project Unit headed by Ibukun Odusote, appointed to the position in 1999 by a previous minister of information to manage government IT projects in the country. It was not long before that minister was replaced by someone who, in Odusote's words, was slow in realizing the importance of ICTs. But when he did, his interest moved the ministry to a very high level of ICT usage by any government agency in the country.

Secondly, as at 2001, the IT Project Unit was developing a national website – an official government site to provide information about Nigeria. It was also in the process of linking up all federal information centres in the country as well as Nigeria's information centres abroad that are part of Nigerian embassies and high commissions. Thirdly, the Ministry set up a cyber café in the National Press Centre located on the premises of Radio House (which houses the national headquarters of the Ministry of Information in Abuja). The cyber café is connected to the Internet through a 246 KPS (kilobytes per second) VSAT. It was set up, according to Odusote, to grant free access to the Internet to journalists who used the Press Centre. But staff of the ministry and the Federal Radio Corporation of Nigeria, Abuja (which shares Radio House with the information ministry) and members of the public can access the Internet at the cyber café free of charge.

However, several visits to the centre during this research showed that the queue was usually so long that people who could afford it preferred to go to fee-based cyber cafés in the city. For most Radio House staff, it was a positive development as they would go early in the morning, sign in, take a number, and go back later in the day to access the Internet.

Odusote said similar cyber cafés would be set up in Lagos and Jos, a Middle Belt city two hours north of Abuja. In Jos, the ministry expects to share bandwidth with the University of Jos that already has a satellite connection. And in Lagos, the ISP providing the bandwidth already has a satellite connection close to the Lagos zonal office of the Ministry of Information, which would be shared with the ministry. The bandwidth sharing is expected to reduce connection costs in the two cities.

> The plan is that eventually all the information centres will be on the Internet. All of them will have computers. We've delivered (computers) to 20 of the 36 (centres) already. And the remaining 16 came in this morning and we'll do that within the next two weeks. They will be on the Internet and connect to us through satellite. For now, they are doing dial up. And then the zonal headquarters will be where we'll set the info-cybers (cyber cafés) to start with. That's being planned for next year. For this year, they are all connected by dial up into the system here and onto the Internet.[21]

Odusote said the concept of the "information-cyber" with free access to members of the public is the first of its kind in Nigeria – "and there is none available anywhere else in the country." She said she usually walked into the centre and saw cleaners and drivers sending mail to their children abroad and she would get excited about it. On access to the centre by women, she said women use it as much as men do.

---

[21] Odusote, Ibukun, personal interview in Abuja, November 2001. One notes that Odusote is usually referred to as the "Mother of the Internet" in Nigeria, for pioneering the first public-use of the Internet in May 1994 when she was the head of the Computer Science department (a department she set up) at Yaba College of Technology, Lagos

> We have a register so it's possible to pick out the men and the women. I would say at that info-café, it's 50-50 – we have as many women as men trying to gain access. The categories of women that we see are: mostly young girls that want to travel abroad, looking for jobs; and women who have children abroad and want to contact them by e-mail. At any point in time, you'll find that there are as many women as men otherwise we would have given some preference to women but it's not necessary because they are always there.

Within the ministry, there is also a relatively high level of ICT usage. For instance, there are about 120 computer systems in the ministry distributed among 475 senior staff (Grade Level 7 to the permanent secretary). While the ratio of computer to staff is still very low, it is higher than in many other places. The ratio is even higher because only 75 of this staff are computer literate (with 43 being proficient and 14 both proficient and Internet literate). All the secretaries, deputy directors, directors and the permanent secretary (the most senior civil servant in the ministry) have a computer on their desks, or access to one. The senior staff is overwhelmingly male (60:40, in Odusote's estimates) because most of the women in the ministry are in the junior staff category, not included in the 475.

> All the directors and deputy directors are on the Internet. Eventually everybody, including cleaners and drivers, will have access (to the Internet) but not everyone will have computers. All computers will be networked. Work on the networking has started already, we are now re-cabling the building[22]

---

[22] Ibid.

Table 5-3 ICTs used in the Federal Ministry of Information and National Orientation

ICTs	Used	Number	Applications
Telephone	Yes	Unknown	Conventional
Fax Machine	Yes	Unknown	Conventional
Computer	Yes	120 distributed among 475 senior staff. The plan was that with the networking of these computers, all staff would have access to a computer at various points in the ministry.	Word processing, work scheduling
Printer	Yes	Many of the computers have printers attached to them	Conventional
Photocopier	Yes	Unknown	Conventional
Internet via dial-up	No	Connected to the Internet through a 246 kps VSAT	Basic e-mailing, Web applications
Internet via VSAT	Yes		

Odusote said in the two years she had been at the ministry, she had used certain measures to ensure that IT usage was a way of life for top officials of the ministry. One of these measures was forcing all directors to be IT-literate. First, she set up training sessions in which every director – starting from the permanent secretary – had to attend. And with the permanent secretary sitting through the entire sessions, the other personnel had no choice but to attend. Second, when she acquired laptop computers in October 2001, she insisted that directors who wanted the unit should turn in their desktop computers.

> There is a lot of resistance there, even though the desktops were just sitting on their desks and not being used for anything. We'd just have been adding another furniture. I've just sent a mail to them that unless they respond by e-mail they are not getting the Notebooks. I've got responses from some of them – about ten and that's really an achievement.[23]

---

[23] Ibid.

Third, she stopped communicating on paper. She told the directors that all memos and important information from her office would be communicated by e-mail. This forced the directors to check their e-mail at least once a day. As at the time of this research, Odusote said all the senior staff from assistant directors up had basic IT literacy.

5:2:4 Ministry of Communications

While the Ministry of Science and Technology oversees the implementation of the National Policy on Information Technology, the Ministry of Communications supervises the implementation of the National Telecommunications Policy by the Nigerian Communications Commission (NCC) though it is often perceived that the Commission has greater powers than its supervising ministry.[24] Interviews in the ministry were focused on the departments that were most directly involved in IT policies and acquisition – the Technical Services Division and the Department of Planning, Research and Statistics. Given the importance of the Ministry of Communications in the ICT sector, the interviews were slightly different from those in the other ministries. Specifically, the questions were designed not only to assess the level of ICT usage in the ministry, but also to provide an understanding of the perceptions and expectations of ICTs by the interviewed officials.

---

[24] Anecdotal evidence indicated that turf wars were frequent between Ernest Ndukwe of the NCC and directors in the Ministry of Communications who often felt that their positions were superior since they worked in the supervising ministry.

Moses Damkor, an engineer and head of spectrum management in the Technical Services Division of the ministry, explained that generally, two areas of ICT have framed public discourse in Nigeria, and policies were therefore directed at them. These are computer (hardware and software) and telecommunications. And within the ministry, officials were in the process of implementing projects in these areas. Earlier in 2001, a committee was set up to "ascertain the computer needs of the various departments/units within the ministry, identify their present mode of manual operation and training needs as well as recommend the most cost-effective way of accomplishing the project."[25] Other mandates of the committee included:

> Establishing the data/information processing needs of the all the departments/units of the ministry; identifying the current mode(s) of manual operations (activities) of the various departments/units in order to ascertain the operations that needed to be computerized; interacting with relevant officers of each department/unit with a view to getting information, which may be useful to the committee and the consultant; identifying the training needs of each department; recommending the most cost-effective way of accomplishing the computerization project and, identifying the present hardware and software position of the ministry.[26]

At the end of deliberations, the committee, according to Damkor, its chair, found that the ministry had 25 computers, some of which met required specifications. Others would be replaced particularly before work started on the networking of all computers in the ministry, a key recommendation in the committee's report. The computers, 20 of which were attached to printers, had Microsoft applications with operating systems that ranged from Windows 95, 98 to 2000. Several customized application packages had been installed for the ministry's management information systems. In allocating existing computers, priority was given to the various schedule officers to help them in their work, and applications installed according to the nature of their departments and units, though every computer had a Microsoft Office. The plan was to network these computers and create a local area network (LAN) accessible by all the principal officers of the ministry. Already, contract had been awarded and the installation of the physical cables had started. A server had been set up in the library and was ready to run by the end of 2001.

---

[25] Damkor, Moses et al, *Report of the Steering Committee on Computerization of the Ministry of Communications,* March 28, 2001, p.1
[26] Ibid., p. 5

According to Freeborn Omueze, an assistant administrative officer in the Department of Planning, Research and Statistics (DPRS), "in order to meet the modern challenges of ICTs, we are going to have many more PCs, especially in the library where all the records will be digitalized. … The library will have access to the global village because we'll have Internet facilities here."[27] Eventually, the networked computers would have access to the Internet and at least 30 employees of the ministry (with staff at the national headquarters of at least 500) would have direct access to the Internet from the computers in their offices.

In the ministry, those with access to computers use them mostly as advanced typewriters. According to Damkor, the computers "are very much underutilized (using them as word processing machines) and staff are not using them to do any other processing work as they are supposed to be."[28] For instance, his department still performs its essential tasks – frequency assignment, licensing and monitoring – manually. He said even he himself used his computer merely for word processing and accessing the Internet. He expressed the hope that things would change when the department received a spectrum management software they were all waiting for from the International Telecommunications Union (ITU).

---

[27] Freeborn Omueze, personal interview in Abuja, November 2001

Table 5-4 ICTs used in the Ministry of Communications

ICTs	Used	Number	Applications
Telephone	Yes	Nine lines	Conventional
Fax Machine	Yes	Three	Conventional
Computer	Yes	At least 25 (the existing number as at March 2001, but a few more systems had been acquired between then and October 2001)	Word processing, Internet activities
Printer	Yes	At least 20	Conventional
Photocopier	Yes	At least two (with one malfunctioning)	Conventional
Internet via dial-up	Yes	Four points of access	Basic e-mailing, web applications
Internet via VSAT	No		

A major step in taking Nigeria's Ministry of Communications to the global information society, according to interviewees, was the creation of an Internet domain name and website for the ministry. The website would contain information about the activities of the ministry, so "our customers who may be living in Lagos, Abuja or Port Harcourt

---

[28] Damkor, Moses, personal interview in Abuja, November 2001

(can) access the Ministry of Communications website and know what frequencies are available and what services he or she may (be interested in) rather than telephoning or coming to Abuja to find out."[29] When the ministry's network was fully set up and connected to the Internet, the different departments were expected to compile a database of their tasks, and this information would be made available on the WWW.

While waiting for the network project to be completed, some offices in the ministry already had access to the Internet. These were Damkor's Technical Services Division (TSD), the Department of Planning Research and Statistics (DPRS), and offices of the permanent secretary and minister. In the DPRS, which had three telephone lines, access to the Internet was from the office of the head of the department, a director. At the time of the research, the modem was bad and therefore the Internet was inaccessible. In the TSD, with a single telephone line used for both telephone and Internet connections, access to the Internet was from the office of the head of the division, a deputy director and Damkor, an assistant director. About eight other engineers in the division could also access the Internet directly from any of the two connecting points. Since only one phone line was used, in many cases, the line was always busy and so anyone wishing to dial into the Internet would wait for the phone to be free. Other times, Internet connections were unexpectedly broken when someone in another office lifted the extension to make a voice call. Each of the four Internet connections in the ministry was accessible only to people working in those departments or offices (in case of the offices of the permanent secretary and minister). It could only be speculated that other staff had indirect access by receiving and sending e-mail messages through those with direct access, as observed in many offices (both public and private).

---

[29] Ibid.

Of the other ICTs, there were three fax machines in the ministry – in the TSD, DPRS and office of the permanent secretary, and at least nine telephone lines, majority of which were located in the offices of the permanent secretary and minister. Specifically about the DPRS, Omueze said:

> Currently the department is not heavily equipped with ICT facilities but we are trying. Now we have about ten PCs, which are distributed among the 15 senior officers in the professional cadre ranging from level 8 to 17). The PCs are being currently networked along with all the computers available in the entire ministry. The department is in charge of the networking because the project is under the Establishment of the Databank which is a baby of the department.[30]

As in the rest of the ministry, the common usage for computers in the DPRS (with about 31 members of staff) is word processing. Omueze attributes this to various factors:

> It was just last year that the senior officers were given orientation in computer utilization. ... Besides their inability to operate and use computers because they were computer illiterate, the secretaries were very good at using the computers to type letters and whatever they were supposed to do. So the senior officers had little or no time to use the computer (themselves). ...

The department had one fax machine, and three telephone lines used by 15 officers in the senior staff category. These telephone lines were located in four offices (with one being a parallel line) and each of the qualified officers who needed to make a phone call would go into any of these offices. The fax machine also used one of the telephone lines. Access to the telephone was expected to increase by the end of 2001 when the ministry set up an internal telecommunications network through a PABX system. With the addition of two external lines, it would be possible for staff without direct external connections to make and receive calls through extensions in their offices, said Damkor. Seven of the ten computers in the DPRS have a printer each (networked such that they are connected to all ten computers). The department has the only scanner in the ministry, a cable television set (located in the director's office), a photocopier that was not functional at the time of this research, and Internet connection only in the office of the director (head of the department) with a dial up access that uses one of the three lines in the department.

---

[30] Omueze, Freeborn, personal interview in Abuja, November 2001

As noted earlier, the modem – the technology needed to connect a phone line to the Internet – was faulty at the time of this research so nobody in the department had access to the Internet from the office. But even when functional, access was very restricted. "Because of conservation of funds and to prevent abuse, the director and myself have access to the Internet and only two of us have the password." [31] Omueze said while he had access to the Internet from work, he hardly used it because he had direct Internet access at home, from where he did all his e-mailing – mostly writing to friends and family members living outside the country. About half of the staff in the department, according to Omueze, had regular access to the Internet through cyber cafés in the city. The ministry, as a whole has targeted the training of personnel, with at least ₦30 million set aside in 2000 to enable senior staff attend international conferences and seminars.

---

[31] Ibid.

And according to data obtained from the personnel department, about nine middle-level staff from that department had already attended various IT trainings. But only few of them, as at November 2001, had access to basic ICTs such as computers. For this staff, the training was a good way to spend one month in Lagos at the expense of the government, at the end of which they returned to their offices in Abuja. Among some, however, there was a sense of frustration at the inability to utilize their newly acquired skills in their routine official tasks in order to increase work-place productivity. And increased productivity was the common theme in the responses of those interviewed (both in and outside the Ministry of Communications) about the role of ICTs at the micro level.

According to Omueze despite the low level of ICT usage in the department, ICTs were already enhancing the productivity of work in the DPRS: they saved time, labour and energy.

> IT aids our job here in (the Ministry of) Communications. … Several occasions, we meet to discuss face to face in meetings, but with the recent developments in computerization and networking, the time wasted moving from place to place calling meetings sitting in conference rooms, these things will be eliminated with time and this is one of the roles that ICT has played. Their importance cannot be over-emphasised. … It is an instrument of development for other sectors.[32]

And Damkor added that ICTs were "very, very important" in the functioning of his Technical Services Division. Generally, he said, the use of computers increased efficiency, reduced human involvement and therefore minimized errors, as well as created a faster way of transacting business.

---

[32] Ibid.

> They enable us to communicate very quickly, to disseminate information to various users, to be able to access information (and) update (it) as things change. IT also helps us to be able to update our records periodically as the need arises, so we don't lose track of what we already have in the system and what we intend to have. It also gives us the ability to plan ahead …[33]

5:2:5 Federal Ministry of Education

Interviews in the Federal Ministry of Education focused mostly on the policy environment in the context of the country's public education system. While there is no reference to ICTs in Nigeria's national policy on education, a major thrust of the policies on ICT rests on the country's ability to raise an IT-literate population. According to Tunde Olaoye, an assistant director in the policy unit of the Federal Ministry of Education, the government had begun to integrate computer education in the curriculum of the country's unity schools and federal technical colleges (which serve as model secondary schools for the rest of the country). As at December 2001, 500 computers were on their way to 85 of these schools, also billed to receive ten additional computers each from NITDA.

> Computer education … is now part of the curriculum in unity schools, but yet to be reflected in the National Policy on Education. … There are private schools all over the country that have computer education, and I know that a sizeable number of model colleges in Lagos state and Kano have computer facilities … Some of the schools in Nigeria now have included computer education in their curricula.[34]

Olaoye also added that there is a problem with starting computer education only at the secondary school level – and this only in a few schools.

---

[33] Damkor, Moses, personal interview in Abuja, November 2001

[34] Olaoye, Tunde, personal interview in Abuja, November 2001

> Ideally, computer education should start from primary level and I've expressed that opinion at different fora in the past, but the … cost of putting down such facilities (for computer education at the primary level) across the country is gigantic. It's not something that one can achieve overnight.[35]

For now in many parts of the country, basic computer education is included in the curricula of private schools – from early childhood to secondary school education. But, as Olaoye notes, "such schools are expensive and a lot beyond the reach of ordinary Nigerians."[36] He said ICTs are too important to ignore because they have a lot of possibilities especially in distance learning and that is why "we are now talking about reaching the unreached to achieve our goal of education for all. New ICTs can be used to reach a large number of people through long-distance.

> Everybody cannot be in the classroom. There is no way you can arrange formal education for the large population we have in a country like Nigeria. So we have to start thinking about using the new ICTs to get to the masses out there wanting to read but having no access to formal education. We've got to explore a situation where new ICTs can be used to reach a large number of people through distance learning.[37]

To explore the potential for education inherent in ICTs, the Ministry of Education had in 2001 organized at least three different workshops and conferences to generate ideas on how to use the technologies to deliver education in the country. Already, a presidential committee had been set up to make contacts with UNESCO, the Canadian-based Commonwealth of Learning (COL) and other organizations with the goal of starting an Open University of Nigeria by January 2002. An open university framed around this concept had been set up by the Shagari Administration in 1983, but facilities at the time were deemed inadequate. And its fate was further doomed by the termination of the Shagari Administration just three months into its second term in December 1983. Olaoye said the presidential committee was addressing some of the problems that beset the first attempt to set up an Open University of Nigeria. For instance, new structures would not be built; rather, facilities from different universities would be enhanced and used for the purpose of delivering long distance education. Such facilities would include a 24-hour standby generator to ensure uninterrupted power supply.

---

[35] Ibid.

[36] This development raises concerns about an emerging internal digital divide – between children of wealthy individuals with access to IT skills and technologies and those without – in a country such as Nigeria where the income distribution gap is already very wide.

[37] Olaoye, Tunde, personal interview in Abuja, November 2001

A virtual library was also planned as a companion project to the Open University and was billed to begin operations in January 2002. The library – with resources from the COL and other organizations, was expected to supply reading materials in the form of database of full-text materials (such as journal articles) and books, which could be mailed to students (in the form of inter-library loan). On how the "Nigerian factor"[38] – such as poor postal services – might subvert some of these plans, Olaoye said:

> Let's think positively. Ideas have been put forward in the past to do certain things which had failed in this country for reasons which people call the Nigerian factor. But we want to put all these things behind and start afresh and re-focus our energy to the direction which will be useful and purposeful to the majority of Nigerians. … I'm positive that within six months, the face of education in Nigeria would have changed a lot.[39]

While the Federal Ministry of Education had the mandate of raising an IT-literate new generation of Nigerians, in its national headquarters in Abuja, there was a very low usage of the technologies. On the number and kinds of ICTs used by staff of the ministry, Olaoye simply said, "not much" and this was further confirmed by Sam Nwaogu, the deputy director of planning, research and statistics whose department kept records of IT acquisitions in the Ministry of Education. The actual numbers could not be determined as the assistant chief education officer in charge of IT purchasing refused to be interviewed. But Olaoye said to the best of his knowledge, nobody in the ministry had access to the Internet from work. And while he himself had an e-mail account, he rarely logged into the Internet because his access came from his former employers, the National Universities Commission. He had a computer on his desk which he said he used only for typing letters and memos. His most advanced usage of the computer was in preparing PowerPoint presentations of speeches he delivered at seminars and conferences. "Any other thing, I leave to my children. I'm not going beyond that for now."[40]

---

[38] The "Nigerian factor" refers to some – or all – of the factors that scuttle well-thought out plans in Nigeria. Some of these factors include inefficiency of public services, corruption and the idea that access to government – through appointments, elections or contract awards – translate into access to an opportunity to accumulate personal wealth.

[39] Olaoye, Tunde, personal interview in Abuja, November 2001

Table 5-5 ICTs used in the Federal Ministry of Education

ICTs	**Used**	**Number**	**Applications**
Telephone	Yes	Two lines	Conventional
Fax Machine	?	?	?
Computer	Yes	Unknown	Word processing
Printer	Yes	Unknown	Conventional
Photocopier	?	?	?
Internet via dial-up	No		
Internet via VSAT	No		

---

[40] Ibid.

At the time of this research, the ministry was in the process of "planning to create" a website that would be accessible by the public from January 2002. This meant that it would either have acquired Internet access before then or contract the creation and administration of the website to a for-profit organization without necessarily acquiring the technologies. This was the model for many Nigerian public organizations with websites. It was common for the "contractors" to move on to other things leaving the websites not updated and nobody to respond to requests for information additional to what is already available on the website. For instance, the websites of the NCC and National Orientation and Public Affairs (NOPA) send auto-responders to enquiries and promise to make real contact as soon as possible, but that is usually the only feedback.[41] The NOPA's auto-responder, signed by "Olusegun Obasanjo, President, Federal Republic of Nigeria," reads:

> I want to express my appreciation for your email. I sincerely thank you for your comments and suggestions. Kindly take this as an immediate acknowledgement of your mail, while in the shortest possible time an appropriate response may be emailed to you.
> Do check our website http://www.nopa.net regularly for updates. Once again thank you.[42]

5:2:6 ICT usage by policy implementing agencies

The Nigerian Communications Commission: The Nigerian Communications Commission (NCC) had an information technology unit within months of starting business in 1994. At the time, there was only one person – who was both the founder and lone staff – of the unit, Olatokunbo Oyeleye. Eight years and three relocations later, the unit had a staff of four (including two youth corps members) with Oyeleye now the manager. The main objective of the unit was to set up IT as an integral part of the commission, and it started off with single-unit systems. Its core functions are system administration and networking, and software development.

---

[41] I've been waiting for more than two years now for a response from the website of the National Orientation and Public Affairs.

[42] This response is generated when one sends an e-mail to NOPA by clicking the "Contact Us" button at http://www.nopa.net

Initially, most of the Commission's staff knew basic typing without computer literacy, and so the IT unit drew up a training manual for everyone. In 1997, the computers in the Commission were networked and a Local Area Network was thus created. It was then necessary to re-train staff on working in a networked environment especially the security aspect of it and understanding that "being on the network does not mean that other people have access to your work."[43] The Commission moved to its permanent building in Abuja in October 2001 and was again in the process of re-networking its computers. But the IT unit had now "introduced Internet-on-demand … and now had to educate people on how to use the Internet to carry out general functions such as research." Commission staff did not all have direct access to the Internet (this was expected to come later when the computers were networked), but everyone had access through a mini cyber café set up in the IT unit. Connection to the Internet was through Nitel dial-up, though Oyeleye said the IT unit was in the process of recommending two kinds of Internet connections: ISDN through Nitel, and VSAT.[44]

---

[43] Oyeleye, Olatokunbo, personal interview in Abuja, November 2001

[44] Ironically, the NCC is the agency authorized to issue VSAT licences to other users for Internet connection but still used dial-up access.

There are about 120 computers (including both desktops and laptops) in the Commission distributed among 170 staff. All staff, except drivers, security people and telephone operators, use the computers for various purposes.

> Basically, as of today, we are working on quite a number of things, trying to build a databank for the engineers in the licensing department. A lot of information is stored in Excel and Word so we are now going into automation beyond desktop operations. We are also going to automate human resources and accounting functions. We are doing all of these in bits.[45]

Every staff member who uses computers in the Commission has attended one form of training or the other. And the training is mostly done in-house as it allows coordinators to

Table 5-6: ICTs used in the Nigerian Communications Commission

ICTs	**Used**	**Number**	**Applications**
Telephone	Yes	Unknown	Conventional, Internet access
Fax Machine	Yes	Unknown	Conventional
Computer	Yes	120 distributed among 170 staff members	Various – word processing, spreadsheet, automation of duties
Printer	Yes	Most computers have a printer attached to them	Conventional
Photocopier	Yes	Unknown	Conventional
Internet via dial-up	Yes		Basic e-mailing, Web applications, research
Internet via VSAT	No		

---

[45] Oyeleye, Olatokunbo, personal interview in Abuja, November 2001

customize the instructions to meet the functions of the different departments in the Commission. Sometimes, external consultants are invited "to do the training for staff as their job requires," said Oyeleye.

Oyeleye was definite that the use of IT, particularly automation, has raised productivity at the NCC. For instance, she said, automating most of NCC functions "ensures long-time delivery of staff duties (and this) will definitely affect productivity."

> Our core function is to regulate telecommunications, to license people to participate and create competition in the market. Let's look at the licensing or consumer affairs department. They license private telecommunications organizations but have no way of storing the information or retrieving the information when it is required by Consumer Affairs. That will create a lot of chaos and will definitely affect the productivity of the organization at the end of the day.[46]

The Nigerian Information Technology Development Agency (NITDA): The Nigerian Information Technology Development Agency (NITDA) had been open for just five months at the time of this research in November 2001. Though it had accomplished a lot during this period in terms of setting up the office infrastructure, it was still in the process of getting its personnel together and settling down to its tasks. Some of the programs that the agency had achieved, or was in the process of setting up, were discussed in Chapter 4. It is useful to note that NITDA was the only government agency in the research, besides the Federal Ministry of Information and National Orientation, that was connected to the Internet through a VSAT. It was also the only one that had networked all its computers, though others (except the Federal Ministry of Education) were in the process of doing so.

---

[46] Ibid.

5:3 Analysis of ICT usage and diffusion in the public sector

Wolcott, et al (1998) develop an analytical framework to assess different dimensions and determinants of technological diffusion in countries. This framework is similar, in some ways, to Kendall's stage approach (as discussed in Chapter 2). In the latter, there are five stages in the life cycle of technology – invention or discovery, emergence, acceptance, sublime and surplus (Kendall, 1999). However in the following paragraphs, the level of ICT usage and diffusion in Nigeria's public sector are analyzed within the Wolcott framework of two dimensions (pervasiveness and sophistication of use) and one determinant (sectoral acceptance – the degree to which the technologies are being used by the different sectors in the society).

Pervasiveness: There are five levels ranging from 0 (non-existent) to 4 (pervasive) on this scale. Level 0 means that the technology does not exist in any viable form in a country (or sector) while Level 1 (entrant) indicates the presence of the technology at a very experimental level. On Level 2, the technology has been established and is used by a small number of users, and "experience with the technology is accumulating."[47] The technology becomes common and pervasive on Levels 3 and 4 (respectively). On Level 3, the

> technology has been adopted by a significant fraction (although not necessarily majority) of potential users within the country. The infrastructure of supporting and related goods and services has become well established, although is not necessarily extensive. … (On Level 4), the technology is pervasive. Its absence is

---

[47] Goodman, Seymour E., Grey E Burkhart, William A. Foster, Laurence I. Press, Zixiang (Alex) Tan and Jonathan Woodard, *The Global Diffusion of the Internet Project: An Initial Inductive Study*, a Mosaic Group Report (March 1998), p.11

> more noteworthy than its presence. The number of first-time adopters of the technology is quite small. The supporting infrastructure of distributors and related goods and services is extensive.[48]

Adopting this framework, the pervasiveness of ICTs in Nigeria falls between levels one and two, and the second stage (emergence) of the Kendall method analysis. In the public-sector organizations studied, different types of ICTs were being used at different levels of intensity and penetration. Even in the Federal Ministry of Education which indicated the least usage of ICTs, there was a general awareness of the technologies. Many of the senior staff had attended some ICT training (though concentrating mostly on basic computer literacy), and an IT acquisition unit had been created, with its officials attending IT-related conferences and workshops on a regular basis. Supporting services and goods were "accumulating" through the broad range of activities engaged in by private-sector interests, particularly those in the business of providing "IT solutions." There was also an increasing level of local improvisation of the supporting technologies (especially software) pivotal to a higher level of ICT pervasiveness. For instance, of the 25 computers recorded for the Ministry of Communications, 14 were "unbranded," or clones locally assembled by Nigerians.

Sophistication of use: This dimension highlights the ways in which people use ICTs in a given country, sector or organization. There are five levels ranging from zero when the technologies are not used at all, to Level 4 when the technologies are transforming and users are applying or seeking new ways of increasing their capabilities. In between are

---

[48] Ibid.

Levels 1 when the "user community struggles to employ technology in conventional, mainstream applications;" Level 2 when users attempt to "change established practices somewhat in response to the technology," and Level 3 when usage may result in innovations particularly as indicated in "significant changes in existing processes and practices."[49]

The sophistication of use of ICTs in the Nigerian public-sector organizations studied during this research can be said to be at Level 2 (conventional), and the second stage (emergence) in the Kendall framework. Usage was still limited to conventional mainstream applications (such as word processing) though some users were beginning to "change established practices somewhat in response to the technology, or in order to respond to the technology" with little innovation.[50] For instance, users of ICTs (as in the Nigerian Communications Commission) had begun basic automation in ways that enhanced pre-established practices without any radical transformation. Thus the boundaries of the technologies were not being pushed to explore further ways of using them, even as interviewees expressed the need for more sophisticated usage (as Oyawoye of the Presidency hoped that spreadsheet applications and scenario modeling would be more widely used by senior officials in the office of the President). For instance, in North America, many young people have found the WWW a veritable playground for all kinds of games beginning with the basic chess. At a more sophisticated level, online casinos have opened up to lure people (in the privacy of their homes) into their webs. In this sense, the technologies are serving functions (for good and bad) other than meeting basic needs of communicating and obtaining information, thus users are pushing the boundaries of the capabilities of the technologies.

---

[49] Wolcott, Peter, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis* (A Mosaic Group Report, December 1996), p. 10-11

[50] Ibid. p.11

While places such as the Federal Ministry of Information and National Orientation and NITDA had more advanced use of ICTs technologies, none of them went beyond conventional mainstream applications. For instance, Odusote of the Ministry of Information had to use a certain degree of coercion to get the directors of the ministry to check their e-mail – a basic ICT application, obviously considered by those directors as a tedious exercise. The problem of connectivity – with many of the ministries with access to the Internet connecting by dialing into a Nitel system that was perennially slow and busy – restricted more sophisticated use of the Internet to basic e-mailing and Web browsing. And in all the ministries, the acquisition of computers and internal networking were considered great strides in the journey to the global information society.

Sectoral absorption: This determinant measures the level of ICT usage in the different sectors of the society. In the Mosaic Group framework, the sectors are academic, commercial, health and the government. Sectoral absorption is rated from 0 to Level 3 with 0 representing non-existent. At Level 1 (rare), less than 10% of the organizations have ICTs while at Level 2 (moderate), between 10% and 90% have ICTs, and at Level 3 (common) more than 90% of the organizations have ICTs.[51]

---

[51] Goodman, Seymour E., Grey E Burkhart, William A. Foster, Laurence I. Press, Zixiang (Alex) Tan and Jonathan Woodard, *The Global Diffusion of the Internet Project: An Initial Inductive Study*, a Mosaic

Table 5-7 Diffusion and usage of ICTs in some government offices in Abuja

Dimension or Determinant	**Level**	**Explanation**
Pervasiveness	-2 (Established)	This is a transition from level 1 to 2 because lack of innovation and resistance to ICTs persist, especially among the senior staff who consider computer usage, for example, to be the function of secretarial and other junior staff, and senior policy officials openly (and often with pride) confess their ignorance of these technologies. However, those who use ICTs are exploring new ways of applying and adapting them to enhance their duties. In some ministries and agencies, such as the NCC, automation of tasks is occurring.
Sophistication of use	2 (Conventional)	Some of the agencies are using ICTs in more sophisticated ways but the most common applications are those conventional and mainstream ones that do not significantly change pre-established functions. For instance, in many of the offices computers are commonly used for typing of letters, speeches and memos by secretarial staff. A few officials use PowerPoint presentation for their speeches at seminars and conferences. Internet activity is mainly restricted to e-mailing and basic Internet search and access to the Internet mostly through dial up into Nitel – the biggest Internet Service Provider in the country.
Sectoral absorption	3 (Common)	All the organizations included in this study had ICTs in varying degrees of sophistication – from the simple telephone to Internet connectivity through VSAT. One is however careful not to generalize this absorption level for the rest of the public sector in the country. While ICT absorption in the offices studied is still basic, it is actually higher than the average because of their roles in the development and diffusion of ICTs in Nigeria.

In rating sectoral absorption in the context of Nigeria, it must be noted that this chapter

---

Group Report (March 1998), p.4. This rating for sectoral absorption was developed specifically for Internet diffusion but I have adapted it to apply to the diffusion of ICTs generally in the Nigerian public-sector organizations studied during this research.

focuses just on the level of ICT use and diffusion in the public sector, and only seven representative agencies were used for this study. However, considering the pivotal roles played by these agencies in the development and diffusion of ICTs in the country, their level of ICT usage does provide insight into what obtains in the general public sector, particularly the federal government ministries in Abuja.

Absorption of ICTs in this sector is at Level 3 (more than 90%) if one considers ICTs in general – which means fax machines and telephones are included. Using the Kendall framework, this determinant also falls in the third stage – acceptance. Again, even the Ministry of Education, with its low usage of ICTs had at least two phone lines and some computers, the number of which could not be determined. At the other end of the spectrum is NITDA with its fully networked "computer smart" building and access to the Internet through a VSAT – the most sophisticated connectivity infrastructure in the country.

5:4 Prospects for the e-revolution

Nigeria's President Olusegun Obasanjo has on numerous occasions declared that the development of new ICTs in Nigeria was a national priority (followed by biotechnology).[52] Public officials in the country, particularly at the federal level, constantly echo this, stressing the role of these technologies in giving Nigeria the leverage to participate and compete in the global economy. All the public-sector people interviewed during this research were unwavering in their belief that ICTs hold the answers to many of the problems of socio-economic development in the country. They all had examples of countries and communities around the world where the development and application of ICTs had propelled them from poverty to great wealth. Frequent examples were India, Brazil and Malaysia.

---

[52] Ajayi, Gabriel, director-general of the Nigerian Information Technology Development Agency (NITDA), personal interview in Abuja, November 2001

However, while the possibilities of ICTs are seemingly endless, in Nigeria, the e-revolution seems to be still far in the future. For instance, "e-banking," taken for granted in the industrialized countries and even in some sub-Saharan African countries such as Ghana and South Africa, is either absent or very basic. While 56 Nigerian banks as at the end of 2001 had Internet access and websites with some of them providing some form of online banking to customers, only very few of them (the "new-generation" banks) had the capacity for an electronic transaction as basic as inter-branch banking. In most cases, customers had to physically go to their home branches to be able to access their accounts.[53] Utility bills could be paid in banks, but only in selected banks where the utility companies already had accounts set up for the purpose. And even in the public sector, 2001 levels of ICT usage and diffusion did not predict the immediate advent of the e-revolution in Nigeria. Ajayi of NITDA agreed that Nigeria started the process very late but was optimistic that the country had the capacity to accelerate its march toward the global information society, even as he and a few others noted that the poor state of infrastructure in the country presented enormous hurdles.[54]

---

[53] The branch of the bank that I used during the research had no telephone, and no electricity each of the times I visited.

Several interviewees in both the public and private sectors argued that ICTs are technologies that can overcome "industrial-age" hurdles because both the mode of production and commodities had changed. Thus journalists and other IT enthusiasts such as Chris Uwaje, president of the Information Technology Association of Nigeria (ITAN), spoke about how Nigeria's crafts could be sold over the Internet. But this argument presupposed an ability to conduct electronic transactions, and to ship goods to any part of the world. Nigeria's postal system was one of the worst, even in the West African subregion.[55] Also, even in a post-industrial world, there are restrictions on goods of certain standards and origins from entry into the global market place. But Uwaje quickly countered this "industrial-age thinking" arguing that in the new digital age, traded goods will not always be physical and thus will not be vulnerable to political, economic or physical restrictions.

> The information age is proving that goods are not just physical goods. Knowledge is goods and that is why intellectual property rights come into play. Indeed at the moment, the transactions that are going on in the world at the maximal level are knowledge and software goods. Research and develop is costing heavily because without them you can't develop the armoury. Someone who has the wherewithal of fusing plutonium of making some energy out of it either for military or civilian purpose can sell … It is knowledge that is being sold and so the service industry is now increasing … If science can force goods to be miniaturized, then

---

[54] These hurdles are discussed in Chapter 7.

[55] For instance, while in Nigeria for this research, I sent a package by "overnight" courier from Abuja to Calabar – a distance of ten hours by road, and given the peculiar air connections, two hours by air. It took one week to arrive. I had to personally collect it from the courier office and hand-deliver to the recipient!

> automatically those borders that we see in the physical realm will collapse because those things we move by ships will be moved by planes.[56]

However, as will be discussed in Chapter 7, Nigeria still has a long way to go before reaching the ICT *El Dorado* constructed in the dreams of ICT enthusiasts in Nigeria and elsewhere. Even the minister of information, Jerry Gana, in a paper delivered at a conference in Abuja in May 2001, noted the "complex and formidable challenge" that lies in the path of Nigeria's journey to the global information society.[57] He also pointed out that Nigeria is "still struggling with basic social and economic needs, the burden of poverty and high level of illiteracy. Without addressing these basic and most fundamental challenges, the so-called 'digital divide' … will continue to mirror the 'development gap' or 'knowledge gap' between" the economies of the developed world and developing countries.[58]

5:5 Conclusion

In this chapter, I have presented the results of research conducted (through observations and personal interviews) in Abuja between October and December 2001 to determine the level of ICT usage and diffusion in selected government ministries and departments. I have also analysed the data collected using the Mosaic framework and shown that in Nigeria's public sector, ICT diffusion is at the conventional levels on the dimensions of pervasiveness and sophistication of use. These levels also translate into the (second) stage – emergence – using the Kendall stage approach (discussed in Chapter 2).

---

[56] Uwaje, Chris, personal interview in Lagos, November 2001.
[57] Gana, Jerry, "Innovative Strategies for the Diffusion of Information and Communication Technologies in Nigeria," a paper presented at a conference on Human Capital Development and Global Opportunities in the Information and Communication Sector: Nigeria in a Showcase organized by the National Manpower Board in Abuja, May 14-16, 2001.
[58] Ibid., p.1

And given the reported 2001 level of usage and status of ICTs in key government ministries and departments one arrives at the inevitable conclusion that Nigeria is still far from the information society. This level will seriously impinge on the country's plans to leapfrog its current stage of (under)development and land in the post-industrial society that fills the imagination and dreams of IT enthusiasts and utopians in the country. Nigerian policymakers may be responding to the global ICT-for-development discourse, but their visions and slogans seem out of step with the reality. As in Howkins and Valantin's Cargo Cult scenario (discussed in Chapter 2), many policymakers are uncritically accepting the ICT-for-development discourse. Representatives of North American and European ICT manufacturing companies as well as indigenous contractors hang around the corridors of power in Abuja preaching the gospel of these new technologies and wooing public officials into thinking that by putting a computer on their desks, they have arrived in the post-industrial society. It is interesting to note that many public officials who have attend ICT-related conferences within and outside the country do not themselves use ICTs and use the opportunities to attend these conferences to serve their personal interests. As noted in the previous chapter, the Nigerian government is pouring lots of resources into the development of ICTs in the country even as it insists that the industry will be private-sector driven. Meanwhile, the myths surrounding the technologies and their linkages to socio-economic development continue and risk overshadowing the more urgent needs of the majority of the population.

In the next chapter, I continue with the attempt to make empirical connections with policies on and visions about ICTs by considering the level of usage and diffusion of these technologies among a cross section of the larger society. A questionnaire was designed to assess the level of ICT awareness and usage by 306 fresh college graduates under the age of 30. The results and analysis are presented in the next chapter.[59]

---

[59] Usage of ICTs in the private sector is excluded from these analyses because those interviewed in this sector are already in mainstream IT (either as providers of training, service or suppliers/manufacturers of ICT components). Their awareness and usage of ICTs are therefore generally above the level of other users and analysis may not illuminate much in terms of determining the status of ICT usage and penetration in the country. However, views of interviewees from this sector are integrated throughout the empirical chapters of this dissertation.

References

Amaefule, Everest, "Zinox, a toast to private sector initiative," *Daily Times*, Thursday, October 18, 2001, p. 15

Damkor, Moses et al, *Report of the Steering Committee on Computerization of the Ministry of Communications*, March 28, 2001

Gana, Jerry, "Innovative Strategies for the Diffusion of Information and Communication Technologies in Nigeria," a paper presented at a conference on Human Capital Development and Global Opportunities in the Information and Communication Sector: Nigeria in a Showcase organized by the National Manpower Board in Abuja, May 14-16, 2001

Goodman, Seymour E., Grey E Burkhart, William A. Foster, Laurence I. Press, Zixiang (Alex) Tan and Jonathan Woodard, *The Global Diffusion of the Internet Project: An Initial Inductive Study* (A Mosaic Group Report, March 1998)

Howkins, John and Robert Valantin (eds.), *Development and the Information Age: Four Global Scenarios for the Future of Information and Communication Technology.* (Ottawa, Canada: IDRC/UNCSTD, 1997)

Kendall, Kenneth E. (ed.), *Emerging Information Technologies.* (Thousand Oaks, California: Sage Publications, 1999)

Wolcott, Peter, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis* (A Mosaic Group Report, January 1997)

Reference on the WWW

National Orientation and Public Awareness website http://www.nopa.net

Chapter 6

Patterns of usage of information and communication technologies: The societal context

6:1 Introduction

In the West, there is now a jaded response to the presence of information and communication technologies (ICTs) in people's lives. Issues of privacy, pornography and leisure time (or the absence of it as a result of the ever-present demands of the telephone, e-mail and other forms of ICTs) are becoming serious items on academic research agenda and the public discourse. However in Nigeria, ICTs have not yet lost their novelty. In fact, given that these technologies (even one as basic as the telephone) are just "emerging" (Kendall, 1999) it will be a long time yet before Nigerians are discussing the deleterious effects and "undersides" of these technologies (Murphy, et al, 1986). In the larger society, access to any form of ICTs – especially those that are as visible as the cell phone – has become a status symbol, not just of money but social sophistication. And the ICT trend permeates all aspects of Nigerian urban societies, starting from the prioritization of ICTs in the national development discourse right down to usage at the societal level.

I began the empirical section of this dissertation in Chapter 4 with a discussion of the policy framework. In that chapter, I examined Nigeria's policies aimed at providing guidelines and regulating the country's ICT sector. There was a discussion of some of the projects that policymakers had begun, as at 2001, in the process of implementation of policy intentions and goals. There was also a critical analysis of the policies, particularly its vagueness over the role of the private sector. While the policies on one hand indicate that the development of ICTs will be private-sector driven, government at the same time insists on harnessing the technologies for socio-economic development. I argued that the goals of business (as represented by the private sector) are profit-oriented and contradict a basic goal of the state to equitably allocate resources (in all forms) in ways that benefit the majority of the population. The discussion of the policy framework led to a focus on ICT usage in the public sector in Chapter 5. This was an attempt to show how public officials' understanding of the intentions of these policies are integrated in practice. I noted the disconnection between policy intentions and practice given the low level of ICT usage in key public-sector departments. In this chapter, I continue the process of connecting policy with practice by focusing on the response of mass society by investigating usage and applications of ICTs by a section of the society.

The underlying argument of this and the last two chapters (and thus the thread that links the three chapters) is this: despite policymakers' insistence that the development of ICTs will be private-sector driven (and in many ways, this is already the case), the achievement of socio-economic goals through ICTs is a multi-sectoral project. Admittedly, the development ICTs in Nigeria has been driven mostly by the private sector, which records a wider usage of the technologies than is observed in the public sector. The role of the private sector has also been further reinforced by relevant policy documents. Even so, some policymakers in the country acknowledge the difficulties that would accompany a total exclusion of both the state and civil society from the process, especially if these technologies are to be harnessed toward the achievement of national economic goals. As shown in Chapter 4, while private efforts had contributed to the diffusion of ICTs, it was not until policies were formulated to give push to developments in the sector that great strides were recorded especially between 2000 and 2001. Accordingly, this research has particularly focused on the policy framework (and thus the role of the state) mostly in recognition of the developmental nature of the Nigerian state.

However, the research also acknowledges the role that other sectors (namely, private and civil society) must play in the development and diffusion of ICTs if the technologies are to achieve stated policy goals. While the last two chapters have concentrated on state action as manifested in policies and the particular ways in which state agencies and functionaries are utilizing ICTs, this chapter focuses on the societal response to the efforts to diffuse and harness ICTs for socio-economic development in Nigeria. This response is assessed through a study of ICT practice, and perceptions and expectations about the technologies by a section of the civil society.

Essentially, the chapter presents the results of a 16-page questionnaire administered to 306 fresh college graduates in the three cities of Port Harcourt (in the East), Lagos (in the West) and Abuja (the federal capital territory). A fourth city, Kano in the North, was excluded because of the violent religious (anti-American) crises in the predominantly Muslim city following the bombing of Taliban Afghanistan by the United States during the period of research. Kano was not replaced because though Abuja is centrally located, it is largely "Northern" in its ethnic identity.[1] Also, the experiences in Port Harcourt and Lagos showed that youth corps members serving in each metropolis were generally drawn from contiguous states. Most of the "Northerners" who participated in the questionnaire component of the research were serving in Abuja. And incidentally, besides two public officials from the Middle Belt,[2] all the interviewees in the overall research were Southern Nigerians.

The Questionnaire: The structure of the questionnaire has already been discussed in Chapter 1 (and it is attached as Appendix A). To summarize, it was designed to assess the level of awareness, perception, usage and expectations of ICTs by participants in the research, selected by a simple method of random sampling. It included an open-ended section which called for respondents' opinions on the factors that they considered would mostly likely facilitate or hinder the development of ICTs, and the perceived roles of the public and private sectors in the process. The questionnaire was interviewer-administered and it involved the researcher reading out the questions to each respondent and recording the answers.

---

[1] While there are Christians and people of diverse ethnicities in Northern Nigeria, the region is predominantly Muslim and Hausa-Fulani with Hausa being the common language.

[2] The Middle Belt is a group of about seven states in the middle part of the country that lie between the core North and Southern states. The boundary lines are not clearly defined but are subject to political and ethnic interpretations, given the group's ethnic diversity. Religiously, it is mainly Christian with pockets of Muslim scattered throughout the region, and has in recent years been the zone of religious conflicts between Christians and Muslims.

Questionnaire participants: Questionnaire participants were selected from among members of the National Youth Service Corps (NYSC), also referred to as corps members or corpers. Corps members are fresh college graduates (having completed at least four years of post-secondary education) who are mandated by law to serve the country for 12 months in places outside their "states of origin" and college or university location. The Yakubu Gowon Administration (1966-1975) started the NYSC scheme in 1973 to create national unity in a country still recovering from a bloody ethnic-generated civil war. It was primarily aimed at offering young Nigerians the opportunity to learn about the cultures of other ethnic and religious groups in the country. Under the scheme, corps members are required to show up every week in the NYSC state or zonal offices for their "community development service," and this created the forum for my contacts with them in the cities of research, Abuja, Lagos and Port Harcourt (see Appendix B for rationale behind the choice of the cities). Through a method of random sampling (referred to in Chapter 1), participants in the questionnaire portion of the research emerged from 64 broad disciplinary backgrounds[3], representing 31 (of the 36) states of the country and Abuja, the federal capital city. The questionnaire was successfully administered to 149 women and 157 men, with nine refusals and incompletes.

Several factors informed the choice of this group to participate in the questionnaire portion of the research. First, in many developed countries, particularly in the United States and Canada, the many dot-com chief executives belong to this demographic group.[4] Secondly, one acknowledges the fact that for a country such as Nigeria with an adult literacy rate of 62.9% (UNDP *Human Development Report*, 1999) and even lower computer literacy rate, interviewing non-college educated people might not have yielded productive results. In going for this group, one made a prior assumption that their cognitive levels especially on matters related to ICTs would be above those of the "average Nigerian." Thirdly, this group allowed for religious, geographical and gender diversities, with the first two being important issues in Nigeria. Many of those who participated in the personal interviews were overwhelmingly male (just four women from the public sector, and none from the private sector). The NYSC population, and the method of selection of participants, allowed for a gender balance, an issue that is critical given the methodological and analytical frameworks adopted for this research.

---

[3] The different branches of Engineering, for example, were counted as one.

The chapter is organized around some major themes – penetration of ICTs, awareness, usage, access, expectations and attitudes, and emerging issues. These themes are in turn discussed in six sections, beginning with an attempt to show the 2001 level of ICT penetration in Nigeria. The status of ICTs in the country provides a useful backdrop against which one can understand the level of ICT access by and availability to Nigerians. This section is followed by an analysis of the level of awareness of and perceptions of ICTs by survey participants. The third section focuses on the patterns of ICT usage which is further broken into sub-sections to adequately address areas such as the types of technologies most frequently used and intensity, purposes and points of access. The fourth and fifth sections present, respectively, research participants' attitude to and expectations about ICTs. The last section features a discussion of some of the issues that emerge from the responses of participants in the survey.

---

[4] While the dot.com companies crashed in 2000, their role in increasing usage and awareness of the economic potentials of the Internet cannot be overlooked. They may not have "invented" the Internet, but they were pivotal in raising it to its current status if only by pushing the boundaries of the technologies and exploiting its economic potentials.

6: 2 Penetration of ICTs in Nigeria: The number question

One of the secondary questions that frame this research concerns the status and level of penetration of ICTs in Nigeria. But Nigeria is not famous for its record-keeping. And when the question about the diffusion level of specific ICTs (measured by the actual numbers present in the country) was posed, different people offered different responses. The difficulty in determining the penetration level of the different ICTs in the country was further compounded by the dynamic nature of the field, and thus the constant fluctuation in statistics. To answer this question as accurately as possible, one turns to official externally generated data, such as the World Bank, International Telecommunications Union (ITU), the UNDP Human Development Report and the *Global Competitiveness Report 2001-2002*. Personal interviews and anecdotal comments gathered during the research also lead to some conclusions about the level of ICT penetration in Nigeria. Finally, while it is by no means accurate, the responses from the 306 respondents to the structured questionnaire offer an idea about access to and patterns of usage of the technologies, both of which provide some insights into the quantitative level of penetration of the different ICTs.

According to the June 2002 ITU report, Nigeria in 2001 had a telephone density of 0.43 (using the population of 116.929 million). It puts the number of mobile phones per 100 inhabitants at 0.28, with a total subscriber base of 330,000. And from ITU's estimates, there are 750,000 personal computers in the country, which translates into 0.66 per 100 people. The *Global Competitiveness Report, 2001-2002* has similar statistics (though for earlier years than 2001), mostly because its authors use the ITU data. Similarly, the World Bank and UNDP rely on data from the ITU, the most authoritative source on the global level of ICT penetration and usage.

Table 6-1: Level of ICT penetration in Nigeria

	Ph. Lines (total)	Ph. lines/ 100 inhab'	Mobile phone subscribers (total)	Mobile phone / 100 inhab'	Internet hosts (total)	Internet hosts / 10,000 inhab' (2000)	Internet users (total – 2000)	Internet users / 10,000 (2000)	Est.PCs (total)	Est. PCs / 1000 inhab'
Nigeria.	500,000	0.43	330,000	0.28	842	0.07	200,000	17.57	750,000	0.66
Africa	20,918,300	2.62	23,545,200	2.95	215,221	2.76	4,600,900	59.09	6,692,000	0.96

Source: International Telecommunications Union, June 2002

In Nigeria, industry stakeholders use a slightly different set of data, with some convergences with data compiled by international organizations. According to official sources, such as Tayo Ekundayo, public relations manager of the Nigerian Telecommunications Limited (Nitel), the national carrier has installed capacity of 700,000 main telephone lines, but as at October 2001, only 400,000 of these were functional. The private telecommunications operators had a subscriber base of 100,000 phone lines, which would bring the number of actually working phone lines in the country to 500,000 (same as the ITU data). Before the two companies offering mobile telephony using the global system of mobile technology (GSM) rolled out their services in August 2001, there were about 100,000 mobile (analogue and digital) phone subscribers. Between August 2001 and June 2002, 600,000 subscribers had been added to the number of cellular phone users in the country, as announced by the service providers. While this figure has not been independently verified, it is probably accurate as the ITU figure for 2001 is 330,000. Given the rapid spread (geographically and socially) of mobile phone usage, one can estimate that the numbers will triple by the end of 2002. Again, there is no official figure for the number of personal computers available in the country, but 500,000 has often been used (with the ITU figure considerably higher at 750,000).

There is not much verifiable information on the levels of penetration for other ICTs. The Nigerian Communications Commission (NCC), which should have such statistics, does not. In fact, on its website (www.ncc.gov.ng), it has a link called "Industry Statistics" that has been "under construction" for more than a year. Titi Omo-Ettu, the managing director of Executive Cyberschuul, estimates that there are 70,000 Internet account holders and 350,000 Internet address holders. It is easy to calculate the number of Internet account holders from the records of the 24 Internet Service Providers in the country, but determining the number of e-mail address holders is rather tricky. For one, many people have more than one address through the "free" Web-based Internet hosts such as Yahoo! and Hotmail. Secondly, neither the numbers of Internet account holders nor e-mail address holders can accurately give an insight into the level of Internet use in the country because the presence of cyber cafés and multiple users of even private accounts conceal the actual numbers of Internet users.

Cyber cafés are springing up in major cities all over the country, particularly in some parts of Lagos such as Ikeja where it appears that there are at least two cyber cafés on every block. At one centre, Webcom, on Toyin Street, Ikeja, there are at least 90-networked computer terminals hooked to the Internet through radio waves – which accelerate the connection speed. The centre, which also operates Internet telephone services, stays open 24 hours and is constantly busy. Within 50 metres on either side of Webcom are four other such facilities. Many of these places do not keep track of users (not ostensibly though), but Webcom does keep a log of all phone calls made by customers from the centre. Many patrons of cyber cafés, especially those in Lagos with a relatively higher level of computer literacy, pay a per-minute "browsing" fee. They buy time (similar to the way one buys a pre-paid telephone card) to access the Internet on their own. Most of these people have their own e-mail addresses on Yahoo! and Hotmail. But there are other patrons with no computer/Internet skills who pay a flat fee to send or receive e-mail messages through the cyber café's own e-mail address. For these reasons, it is difficult to determine the level of usage in any quantitative way by looking at e-mail addresses alone.

Whatever the actual figures on the level of ICT penetration in Nigeria are, one can conclude that while these technologies have been established, they are far from common.

Based on the analytical framework developed by Wolcott, et al (1998) to determine pervasiveness, a dimension of the level of Internet diffusion and penetration, Nigeria is clearly on Level 2. A country reaches this level when "the ratio of Internet users per capita is on the order of magnitude of at least one in a thousand. There are fewer than 1,700 hosts per 10 million people."[5] The framework remains valid when "Internet" is substituted with "ICTs." A larger percentage of ICT-generated activities are prevalent in Lagos, Port Harcourt and Abuja and taper off as one moves to other cities and states. Thus diffusion of ICTs in Nigeria are "moderately dispersed" as most of these technologies are located in "at least half of the first-tier political sub-divisions of the country."[6] In Nigeria, the 36 state capitals would constitute this first tier of political sub-divisions, and even then, there are states (especially in the far northern and eastern parts of the country) where some of the basic ICTs – such as telephone access – barely exist.

The current spread of ICTs (as secondary technologies) in Nigeria seemingly follows the pattern of pre-existing technologies such as telecommunications and electricity. For instance, given the state of telephony in the country, with a significant portion of the country not connected to the national telephone network, a greater percentage of Nigerians have no access to ICTs that are integrated with the telephone, or dependent on electricity. This leaves only the cellular phone – as an ICT that can exist regardless of the state of other infrastructures. But its diffusion, especially, in the rural areas faces other constraints – as discussed in Chapter 8.

---

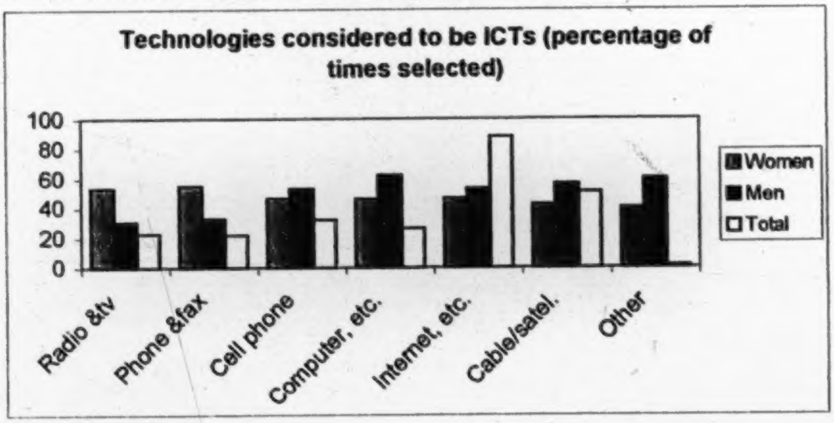
[5] Peter Wolcott developed the framework for Peter Wolcott, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis,* Mosaic Group Report (January 1997). But the above reference was taken from Goodman, et al, *The Global Diffusion of the Internet Project: An Initial Inductive Study*, a Mosaic Group Report (December 1998), p.4

[6] Ibid., p.6

6:3 Awareness and perceptions of ICTs

Awareness of ICTs by respondents was measured by a question requiring respondents to choose from a list of six different technologies those that they considered constituted information and communication technologies. The list included: radio and television, telephone and fax machine, cellular phone, computer, printer and photocopier, Internet – E-mail, World Wide Web (WWW), and Other. In each of the cities, the "Internet – E-mail and World Wide Web" was routinely recognized as ICT even as computers and telephones did not get similar attention. As many as 88.2% of the 306 respondents in the study selected "Internet – E-mail, World Wide Web (WWW)," followed by "satellite and cable communication systems" 50.9% of the time (Chart 6-1). The third most recognized ICT was the cellular phone, at 32%, followed by "computer, printer and photocopier" at

Chart 6-1: Awareness as measured by identification of ICTs

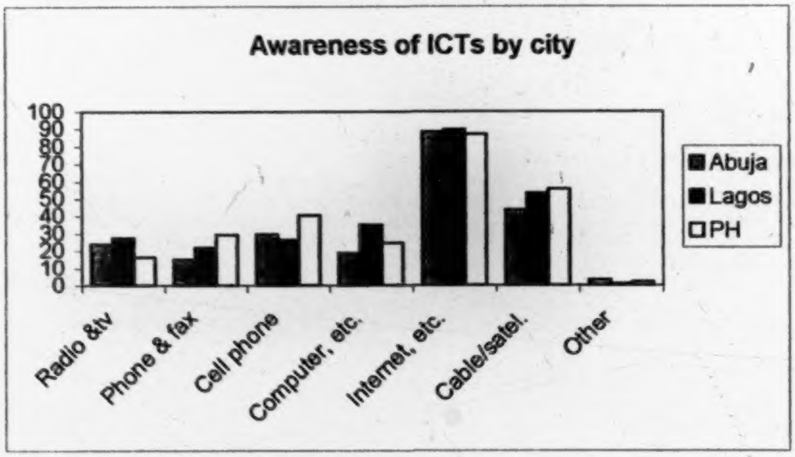


26.1%. Interestingly, "radio and television" was selected almost as many times (22.5%) as "telephone and fax machine" (21.9%).

More men than women clearly identified the core technologies of ICTs (as operationalized in this research) but when the responses were analyzed by geographical area, the differences were not well defined. Besides the recognition of the "Internet – E-mail and World Wide Web" and "computer, printer and photocopying machine" more times (89.6% and 34.9% respectively) by respondents in Lagos, the results did not indicate any geographical disparity in the exposure of youth corps members in any of the three cities to these technologies. Indeed, the margin among the three cities in the recognition of the Internet as an ICT is narrow.

As can be seen from Chart 6-2, Lagos respondents selected the Internet only 0.8% of the

Chart 6-2: Awareness of ICTs analyzed by city of research



time more than those in Abuja and 2.7% more than Port Harcourt respondents. The only significant difference was in the recognition of "computer, printer and photocopying machine" 34.9% of the time by Lagos respondents as against 24.2% and 18.8% by Port Harcourt and Abuja respondents respectively. Respondents in Lagos considered the "radio and television" more times (27.4%) than those in the other two cities – and more times than Abuja and Port Harcourt respondents selected "telephone and fax machine" (21.7%). Port Harcourt respondents seemed to stress the role of telecommunications in ICTs and chose "telephone and fax" and cellular phone more times than respondents in Abuja and Lagos. They also chose "cable and satellite communication systems" more times (55.6%) than respondents in the other cities. And in selecting "radio and television" the least number of times (16.2%), Port Harcourt respondents showed more familiarity with the technologies that actually constitute ICTs, not only as conceptualized in this research, but as defined by many scholars in the field.[7]

On the surface, the lack of clearly defined differences in awareness of ICTs by geographical location of respondents refutes the assumption made in the first section of this chapter that the spread of ICTs is likely to follow the pattern of the development of other (more primary) technologies such as the telephone and electricity. However, when one considers the fact that the three cities are already well-endowed with these primary technologies – much more so than other cities in the country – the lack of difference in awareness of ICTs among youth corps members in the cities of research is likely to reinforce the earlier assumption: ICT diffusion in the country will follow the pattern of primary technologies. With 200,000 telephone lines, Lagos has about 50% of all the functional lines in the country. And Abuja (as the political capital of the country) and Port Harcourt (as the oil capital) are not that far behind. This contrasts enormously with the situation in other parts of the country where many towns and cities are not connected to the national telephone grid, even though the technology has been in Nigeria for more than 100 years.

---

[7] Many of these definitions were given in Chapter 1.

Socially constructed definitions of ICTs: In evaluating the level of respondents' awareness of the technologies that constituted ICTs, they were allowed to choose more than one technology from the list. There was no emphasis on "new" and it was remarkable that radio and television were considered new ICTs more times by female respondents than were computers, printers and photocopier. Many of the respondents took "information and communication" as the operative words. In this definition, it was not obvious how computer, printer and photocopier could be considered technologies of *information* and *communication.* Even in processing of the responses, many of the participants who verbalized their selections did not consider the relationship between computers and the Internet.

As the questionnaire was interview-administered, the researcher/author was able to observe the processes through which respondents arrived at the answers to some of the questions.[8] For instance, in deciding whether satellite and cable communication systems were ICTs, some would ask: "that's CNN, right?" The interviewer would not give an answer but would usually counter with: "what do you think?" This monologue occurred frequently with other questions such as whether radio and television were *new* ICTs without any doubt that they were information and communication technologies.

Respondents said in their explanation of their choices, that the telephone is not new as it had always been around. While access to the Internet through Very Small Aperture Terminals (VSATs) is becoming common in Abuja, Port Harcourt and Lagos, most of the women who chose this as an ICT were not thinking – going by some of their comments – of this. Several understood cable and satellite communication in terms of television broadcasting – namely ability to watch CNN and the BBC in Nigeria. Most of the survey in Port Harcourt was done during the week of the September 11, 2001 terrorist attacks in New York City and Washington, DC, and many respondents became aware more than ever before of the importance of owning a "satellite dish" as a medium of access to information from abroad, transmitted through the CNN and BBC.

Questionnaire participants, through their responses, revealed that ICTs do not have any universal definitions as they can be socially constructed depending on the local contexts. This in itself was informative and led to conclusions about respondents' levels of ICT awareness and understanding of the issues around the subject. For instance, those who earlier said they had not used the computer in the last one month would later say "yes" to having used the Internet, sent/received e-mail during the same period. In recognition of the presence of cyber cafés (the most common ICT access point) and the rising phenomenon of giving hand-written letters to be sent as e-mail by center staff, the question was phrased such that it did not matter if one used the computer by oneself or was assisted by another person. This was deliberately aimed at highlighting the interesting relationship between staff of cyber cafés and their clients, as observed in many of the centers. Often, there was no distinction between the person originating an e-mail and the one typing it up to send at a cyber café. For instance, a client wishing to send an e-mail would sit on a chair or stool beside the staff who was either typing or in the process of sending out the e-mail. In many cases, the client would read out the hand-written letter (or dictate if s/he came without written material) to the staff. As the staff was typing, the client would be reading on the screen and pointing out any errors that might have occurred. While this was going on, the two would be having a conversation about whatever the issue of the day was – or the client would explain the background of the e-mail, and his or her relationship with the recipient. In this context, there was no separation between the clients and staff in terms of who was doing the work.

---

[8] While this extended the duration of completing the 16-page questionnaire, listening to the ways through which respondents rationalized their responses gave the researcher information that illuminated the issues much more than rigidly coded responses would have done. In the open-ended section of the questionnaire, the researcher probed for more complete responses and clarifications. However, there was no attempt to influence responses by offering suggestions or explanations.

The particular ways in which Nigerians socially constructed the meanings of ICTs showed up in many other places during the administration of the questionnaire. Given the ubiquity of e-mail particularly in the three cities of research (and among the fairly ICT savvy), this term came to be more widely recognized, and in many cases used as the generic term for the Internet and WWW. This was observed through the fact that while some respondents said they had never used the "Internet – E-mail and WWW" as one group of technologies, they would later say they had sent or received at least one e-mail in the month preceding the interview.[9] Many respondents expressed some uncertainties about what the Internet *really* was and what Internet activity constituted a search. On numerous occasions, those who said they had never used the Internet would later say that they had sent/received e-mail in the last one month.[10] It was also observed that those who checked their e-mail boxes at Yahoo! or Hotmail considered the activity as "Internet search."[11]

In another area, some respondents made a distinction between a "cellular phone" and "GSM phone" without realizing that GSM (the global system of mobile communication) was merely one of the technologies used to deliver mobile telephony (for instance, through the cellular phone). Again, this was a socially constructed definition particularly generating from the intense publicity that led to and followed the introduction of the "GSM phone" into the Nigerian market in August 2001. The "GSM phone" was reported in the media as a radically unprecedented technology without any reference to the larger framework of mobile/cellular phones. Prior to this, the national carrier, Nitel, and some private telecommunications operators (PTOs) were providing mobile phone services, but through the analogue system. Many Nigerians (including those with high levels of IT awareness) began to equate cell phones with the previous analogue technology and "GSM phone" with the new technology without realizing that the two were essentially the same mobile telephony but delivered through different technological platforms. Thus it was common to hear people (of high ICT literacy level) saying, "You can reach me both through my cell phone and GSM;" or "I no longer use my cellular phone. I now use GSM."

---

[9] While the researcher read out the questions and recorded responses, each participant was given a copy of the questionnaire to read and follow as the administration progressed. This eliminated the problem of respondents not hearing or understanding the questions. In fact, many respondents would first listen to the researcher read the question, and then they would read it up for themselves. Others read along as the interviewer read each question.

[10] Many respondents would ask the researcher: "what does this one mean?" and the response usually was: "please answer according to *your* understanding."

[11] A follow-up question for those who said they had done an Internet search in the month prior to their participation in the research was: "What information were you searching for? (*Please give some of the keywords)*".

6:4:1 Patterns of ICT usage

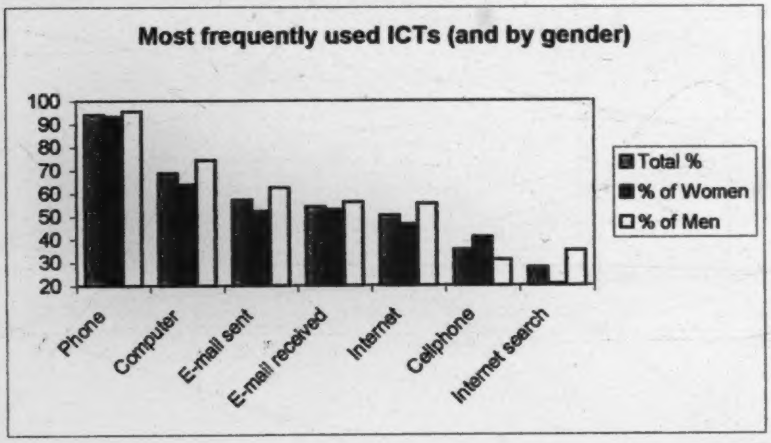
This section, which assesses the level and nature of ICT practice among research participants, is sub-divided into three categories: most frequently used ICTs and intensity, purposes and points of access.

6:4:2 Most frequently used ICTs and intensity

This was measured by questions that called for the number of the different ICTs that respondents had used in the month prior to their participation in the research, and the regularity of use during the period.

More than half (55.8%) of respondents in the three cities had used one form of ICT or the other in the month leading up to the research. (Chart 6-3) Specifically, 94.4% of the respondents reported making at least one phone call during the period; 69.3% used a computer while 57.5% sent and 54.6% received e-mail. Use of an Internet search engine tagged behind at 28.1%, followed by the percentage of respondents who had made calls using a cell phone (35.9%).

Chart 6-3: ICTs used in the month prior to participation in the research



Female usage of ICTs was constantly below the national average except in cellular phone usage where they not only used it more frequently than men, but their usage was above the total average in each of the three cities of research. A significant gender gap was observed in computer usage as 24 more men than women reported having used it while the narrowest gender gap (by nine) occurred in the number of respondents who had received at least one e-mail in the preceding month: 88 male and 79 female respondents.

More male respondents reported using all the ICTs than their female colleagues, except for the cell phone, by 61 women while just 49 of 157 men had made a cell phone call in the month following the research. This difference could be explained by the fact that more women were likely to have access to their male relations' cell phones than men. Indeed, of the 61 women who reported having made a cell phone call, only six owned a cell phone while 45 used somebody else's. And as cell phone usage began to spread in the country mostly as a result of the rollout of cellular phone services by the GSM operators, it was increasingly common for male relations – fathers, brothers, boyfriends and husbands – to purchase a cell phone for women and girls. No research has been done on why Nigerian men – at least those who can afford it – are buying cell phones for the women in their lives. But one can speculate, based on comments by questionnaire participants and anecdotes in newspaper columns. This phenomenon occurs because the cell phone has become a status symbol of sorts and therefore an item to impress a woman with.

In Nigeria, women are *generally* economically dependent on men, who also take their role as providers very seriously. This has implications for the status, treatment and perception of the role of women in the Nigerian society, an analysis of which is beyond this particular study. In the past, particularly during the oil boom years, wealthy men in the country bought cars for their wives, girlfriends and mistresses. While a few super rich men still do, the arrival of the "GSM phone" appears to be a relatively cheaper way of achieving the same goal: doing something impressive for girls and women. Adult relations, especially wealthy fathers, also buy cell phones (as well as other "luxury" items) for their daughters to make them look as hip as their girlfriends without falling into the claws of some rich, older and married man. At least, this was the reason given by one father to explain why he bought "GSM phones" for his two daughters (aged 20 and 21), one of one of whom graduated from the university in 2002.[12]

While there may be a simple explanation for the wider use of the cell phone by women than men, it was surprising, for many reasons, to find that more men than women had used a computer in the month preceding the survey. First, 71.1% of female respondents said they were computer literate, as against 67% of male respondents, and an equal number (78%) of male and female respondents said they had learnt how to use the computer. Second, one might assume that in Nigeria, as in many other countries, of those engaged in such work roles as typists, stenographers and secretaries, women had always been in the majority. In many offices visited during this research, it was more common to see women – who function as secretaries and typists – than men behind the computers. Third, there was a more significant presence of women in the business centres visited than the results of this survey seem to imply. In many of these places, variously called telecentres and cyber cafés, women worked as typists, clerks, cashiers and administrative assistants, handling the accounting part of the business.

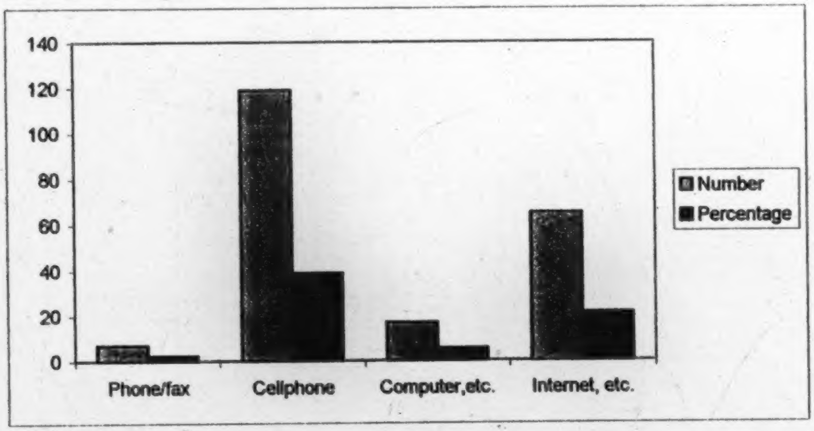
---

[12] He was to tell me in a subsequent communication that the phones came in handy in January 2002, when an explosion in one of the army barracks in Lagos destroyed lives and property in many parts the city. This father said his girls had been out visiting with their friends when the explosion occurred, but by reaching them on their cell phones, he was able to keep them safe and away from home which had been partly hit by the explosion.

But perhaps to underscore the results of the research (on greater usage of computers and other ICTs by men), even in these business centres, an interesting gender division was observed in centres where staff assisted customers with their needs. Men did the more technical things such as helping customers to check their e-mail, "browse" the World Wide Web, or use a search engine. Indeed, in many cases where customers – both men and women – went to learn how to use the Internet (for a fee) male staff were assigned the task of training them. It was unusual to find a woman offering any training in the cyber cafés.

Geographically, the highest level of ICT usage among respondents to the questionnaire occurred in Lagos where 59.6% of the respondents had used one form of ICT or the other in the preceding month. This was followed by Abuja (56.6%) and Port Harcourt (46.9%). All 101 respondents in Abuja had made a telephone call at least once in the month prior to their participation in the survey with 96.2% in Lagos and 86.9% in Port Harcourt. While respondents in Lagos recorded the highest usage of all the technologies, they trailed behind Abuja and Port Harcourt on the number of respondents who had received at least one e-mail during the period. About half of Abuja respondents (50.5%) and 49.5% of Port Harcourt respondents had received e-mail during the period, as against 35.8% of Lagos respondents. Interestingly, at 64.2%, more of the Lagos respondents had sent out e-mail than those in the other cities (59.4% and 48.5% for Abuja and Port Harcourt, respectively). Lagos also took the lead in cellular phone usage during the period with 44.9% of the respondents having made a cell-phone call in the month before the survey. This was followed by Abuja at 40.6% and Port Harcourt at 21.2%. In all, 35.6% of all 306 respondents who participated in the questionnaire had used a cellular phone (to make or receive calls) during the one month prior to the research. The least used ICT was Internet search at 27.8% (35.5% in Lagos, 26.7% in Abuja and 21.2% in Port Harcourt).

Chart 6-4: Respondents who had never used some of the ICTs



More than half of respondents in the survey had used one form of ICT or the other in the month prior to their participation in the research, but there were also those who had never used some of the ICTs. (Chart 6-4) For instance, seven respondents had never used a telephone or fax machine while 119 (38.9%) had never used a cellular phone – the second least used ICT (the other being Internet search engine) This result was not surprising considering that before the GSM cellular services, access to cellular phones in the country was extremely limited to only Nigerians at the high-income end. The official cost of obtaining a cellular phone line prior to August 2001 was ₦25,000 but it actually cost much more to own one and the requirements were very stringent – such as a bank statement and a travel passport as proof of identity.[13] Even when the GSM services started, it was not until about three months later when the operators significantly reduced the cost of access and introduced pre-paid packages that many more people could afford some of the plans.

Also, the fact that seven of 306 respondents had never used the telephone and/or fax machine was not surprising either: one had actually expected a higher number. While the "telephone has always been around" (as some of the respondents put it), the nature of the technology requires at least two people to complete a call. Given the general poverty in the country, the low teledensity and the fact that about 65% of the population live in the rural areas, it is not uncommon for a college graduate not to be personally or officially acquainted with someone who has access to a telephone with whom she or he could engage in a telephone conversation. Access to a university education in Nigeria is not an indication of socio-economic status. Indeed in the not too-distant past in Nigeria, children from poor rural homes were able to acquire post-secondary education through communal efforts – such as levies imposed on community members. Communities pooled resources to pay for an individual's college education knowing that after four years, the university graduate would be in a position to pay back to the community.[14] But that was in the days of guaranteed employment, and the knowledge that the graduate would contribute to his community. (It was mostly unlikely that a community would contribute toward the tuition fees of a female as women education beyond the basic level was generally considered a waste of money. In society's view, there was no guarantee that she would complete the education and not drop out as a result of pregnancy. And even if she graduated, she would marry and carry the "benefits" to her husband's family and community, while her "own" family and community "lost" out.)

---

[13] In Nigeria, even more than in other countries, people do not procure the national passport unless they are travelling. For one thing, the cost of the document (officially, ₦5,500 but with immigration officers in the different passport offices in the country demanding bribes, one usually spends up to ₦10,000) means that people do not just apply for one as an identity document. In a recent television news, it was reported that less than 25% of Americans have a travel passport.

[14] Many Nigerian writers, such as Chinua Achebe in his *No Longer at Ease,* have documented this phenomenon.

About 17 respondents (5.6%) had never used a "computer, printer or photocopier" while 65 (21.2%) had never used the "Internet – E-mail and the World Wide Web." When analyzed by gender, the numbers indicated that more female correspondents had not used some ICTs than their male colleagues, except for cellular phone, where fewer women (50 or 33.6% of female respondents) than men (69 or 43.9% of male respondents) had never used it. For other ICTs, four women and three men had never used the phone or fax machine; 11 women and six men had never used a computer, printer or photocopier and 41 women and 24 men had never used the "Internet – E-mail or World Wide Web." Of respondents who had never used one form of ICT or the other, more were in Abuja (90.1%), with Lagos recording the least number (49.5%). About 64.6% of the respondents in Port Harcourt had never used one form of ICTs or the other.[15]

---

[15] This was calculated from the number of respondents in each city who said "No" to at least one ICT when asked the question: "Have you at any time used any of these technologies?

6:4:3 Purposes of ICT usage by respondents

The policies on ICTs in Nigeria raise high expectations about the capacity of ICTs – in their usage and diffusion – to stimulate socio-economic growth in the country. To measure how the intentions of these policies are understood by a cross section of the society the questionnaire included questions about respondents' reasons for using the various ICTs. Specifically, respondents were asked to state the purpose of usage the last time they used each of the ICTs. The options were "personal," "official/work/business related" and "both." An overwhelming majority of respondents used the technologies mainly for personal purposes. However given the Nigerian environment, many did not distinguish between personal and official reasons. For instance, many understood "business" to apply to a privately owned enterprise such as a contracting or trading business, and "official" to refer to anything relating to their offices or places of work. Hence, respondents who used the computer to type their résumés or job applications would choose "personal" as the purpose for which they had used the technology.[16]

As Table 6-2 shows, 83.7% of the last phone calls made before participation in the survey were personal, as were 78.4% of the last calls made on a cell phone. Similarly, 82.3% of the last e-mails sent and 75.4% of the last e-mails received were personal. The balance was distributed between those who used the technologies for both personal and official

---

[16] As the questionnaire was interviewer-administered, one was careful not to influence responses by interpreting or explaining the questionnaire once administration had begun. However, because of the process of verbalizations (referred to earlier), the interviewer was able to input the data as accurately as possible.

Table 6-2: Purpose of ICT usage

City of research	Phone		Cell phone		Internet		E-mail sent		E-mail received		Internet search	
	Pers.	Offi.	Pers.	Offi.	Pers.	Offi.	Pers.	Offi.	Pers.	Offi.	Pers.	Offi.
Abuja	88	13	33	8	40	3	32	28	28	23	22	5
Lagos	80	24	37	12	44	2	66	4	57	2	25	5
Port Harcourt	74	12	17	4	30		46	1	41	1	12	3
Total in #	**242**	**49**	**87**	**24**	**114**	**5**	**144**	**33**	**126**	**26**	**59**	**13**
Total in %	**83.7**	**17.0**	**78.4**	**21.6**	**73.1**	**3.2**	**82.3**	**18.9**	**75.4**	**15.6**	**67.0**	**14.8**

Pers. (personal), offi. (official)

reasons and those for whom " I don't know" (?) was recorded.[17] This was typical of the e-mail activities of respondents because the pattern of distribution between personal and official purposes was the same for the distribution of e-mails (personal or official) received or sent in any given month.

A major thrust of the policies on ICTs in Nigeria concerns the need to use the technologies to generate economic growth internally, as well as give the country an advantage in the global economy. To understand the connections between this national goal and respondents' use of ICTs, questions were also posed concerning the destinations and origins of last e-mail messages and phone calls. Analysis of the responses (Table 6-3) shows that most of the last phone calls (either from fixed or mobile lines) were to numbers within the country, with local and state calls being in the majority, followed by national calls. Only 12 respondents reported that their last telephone calls were to numbers outside the country while the last cellular calls of ten respondents were to international numbers. This trend may not be a factor of lack of interest in external connections as much as it is that of the cost of making international calls. In many cases, a cellular phone call to an international number costs as much as ₦135, approximately two Canadian dollars, per minute. Nitel charges about ₦200 for three minutes of phone call, but only a small percentage of phones lines in the country have what is locally referred to as "IDD," a facility that enables international dialling. The easiest way of calling abroad on Nitel is at the company's public pay phones.

---

[17] This occurred in the few cases where attempts to explain the question to respondents were likely to result in an influenced response. In those cases, the interviewer recorded a question mark and moved on to the next question.

Table 6-3: Destination and origin (of last ICT activity)

City	**Phone call**			**Cell call**			**E-mail sent**			**E-mail received**			**Type of information searched for on the Internet**	
	State	Nat'l	Int'l	State	Nat'l	Int'l	State	Nat'l	Int'l	State	Nat'l	Int'l	Local	Int'l
Abuja	45	53	2	16	24	1	7	23	28	5	21	25	…	23
Lagos	76	16	9	37	4	8	15	13	42	18	16	35	7	29
Port Harcourt	34	50	1	11	9	1	6	23	18	7	24	17	3	20
Total	**155**	**119**	**12**	**64**	**37**	**10**	**28**	**59**	**88**	**30**	**61**	**77**	**10**	**72**
%	**53.6**	**41.2**	**4.2**	**33.3**	**9.0**	**25.2**	**15.9**	**33.5**	**52.7**	**18.0**	**36.5**	**46.1**	**11.4**	**81.8**

However, when it came to e-mailing, there was an upsurge in respondents' external-oriented interactions. About 52.7% of the last e-mail messages sent were to addresses outside the country, while 46.1% of the last e-mail received were also from addresses outside the country, followed by 36.5% for e-mail received from addresses (or senders) within the country.[18] Of those who had done an Internet search in the month prior to their participation in the research, their last Internet searches were for international information, with information defined as "international" if it related to activities or interests outside the country. For instance, many of the respondents were seeking information on employment and graduate studies in Canada and the United States. Also, for many of the Port Harcourt respondents interviewed during the week of the bombing of the 2001 terrorist attacks in the United States, their Internet search was for news and updates on the incident. In the section that called for the nature of the information sought (or keywords), many respondents said the following:

> Career opportunities at a company website; Graduate studies; news (at Yahoo), information about "America under attack; www.encartaencyclopedia.com -- countries in the past, Europe, France, History, French Revolution; career, sponsorship, latest news at CNN.com; DV-2003 American Visa; Graduate schools in the US; GRE requirements for admission, graduate GPA requirement for the different good schools; employment offer in Germany; online shops in the US; opportunities for graduate education abroad; immigration process to Canada.

There were also a few – 11.4% – respondents whose last Internet searches were for local information, with information considered local if it directly affected the respondents in the places where they were. Thus a respondent's search for information on how to bake was classified as local. So was the search of one respondent for information on airplanes as his company was planning to acquire one. (He said he worked in the acquisition department of an airline.) Other searches defined as local included:

---

[18] Only very few of the respondents had direct Internet access and therefore determining if an address is "outside the country" is problematic given that most e-mail users in the country use Yahoo! and Hotmail accounts and therefore their addresses are outside the country. However, the question was framed such that the emphasis was on the geographical location of the recipient or sender rather than on the location of the hosts of their e-mail addresses.

> I needed information about my project;" information on GSM handsets; software drivers and downloads; information on artists and music; congratulatory cards, electronic greeting cards; information concerning health and entertainment; information on dieting and fashion.

There were a number of respondents who said their "Internet search" involved checking their e-mail boxes on their web-based accounts. Others said they were simply "browsing" (a common terminology for most Internet activities in Nigeria). These responses were excluded from the analysis.

6:4:4: Points of access

One of the issues that have emerged in the discourse on ICTs as tools for socio-economic development in countries such as Nigeria has been access – as will be discussed later in this chapter. It was therefore necessary to know the level of access to ICTs that Nigerians have, and respondents were asked questions concerning the places where they access particular ICTs – and the cost of such access. Specifically, the question was: "The last time you used (or accessed) … (name of technology) where was it?" The options were home, work (office), school, public pay phone or business centre.

Access to the telephone and computer was mostly from work. (Table 6-4) The second most common point of access was the home, followed by a payphone. And among those who said they had accessed these technologies from home, many said they did not directly own the access. Often, they went to friends' or relations' homes to use the technologies – especially the telephone. Others lived in homes where another member of the household owned the technology (or technologies).

Table 6-4: Point of last ICT access

City	**Telephone**			**Computer**			**Own computer**	**Internet log in**			**Internet access**		**E-mail address**
	Hm.	Wk.	Payphone	Hm.	Wk.	Biz Centre	Yes	Hm.	Wk.	Biz centre	Hm.	Wk.	Yes
Abuja	32	47	19	11	44	13	12	4	21	27	3	27	67
Lagos	36	47	11	13	51	19	19	4	20	39	10	28	86
PH	12	34	32	7	33	16	5	1	4	35	6	6	62
Total	**80**	**128**	**62**	**31**	**128**	**48**	**36**	**9**	**45**	**101**	**19**	**61**	**215**
%	**26.8** [1]	**44.3**	**21.5**	**14.6**	**60.4**	**22.6**	**17.0**	**5.7**	**28.7**	**64.3**	**12.1**	**38.9**	**70.3** [2]

[1] *All calculations, except the entry on e-mail address, are based on total number of respondents who had used the particular ICT in the month just before their participation in the research.*

[2] *Calculated from the total number of participants in the research.*

With just 36 (or 17% of those who had used the computer in the month preceding the research) owning computers or living in homes where they were available, access to the computer was invariably more at work and business centres than anywhere else. The cyber café was also the point of access for 64.3% of respondents who had been on the Internet in the month leading up to their participation in the survey. This was followed by 28.7% of login from work. While 70.3% of all respondents in the research had their own e-mail addresses, only 19 respondents had direct Internet access from home, and 61 from work.

Given the nature of the Nigerian society – namely low penetration of ICTs and communal ownership of properties – the question about access was phrased such that there was no emphasis on "ownership." Again, this was a situation where "universally" accepted definition of access was locally reconstructed to capture the culture of the specific social context. In Nigeria, access to certain properties (communally or individually owned) is frequently equated with ownership, thus many respondents who said they had direct access to the Internet actually meant access to accounts owned by or accessible to friends and relations. Access to the Internet at business centres or cyber cafés was also reported as ownership because the patron of these centres paid for time to "browse" and for as long as he or she could pay for the minutes or hours (some centres offer reduced overnight rates usually starting from midnight to 8 a.m.), he or she had monopoly of the use (and therefore could claim ownership) of the technology.

The point on access as ownership can further be explained through a common practice among city-dwelling Nigerians of going to the homes of neighbours, friends and relations to make or receive phone calls. Indeed, familiar to many Nigerians living abroad is the situation where they ask their friends and relations to go to homes of neighbours, friends and relations who have telephone access to receive calls at prearranged times. In turn, those in Nigeria think nothing of giving out those numbers to their own friends and colleagues knowing that the messages would be passed on at no costs. Often, a caller is put on hold for upwards of ten minutes while a child runs down the street to call a neighbour or friend living elsewhere to take a phone call.

As Table 6-4 shows, a lot of ICT usage by respondents occurred at work, and this point is significant for two reasons. First, 76.7% of all ICT activities undertaken were personal. And in 44.6% of the time, these activities were done at work. Second, as has been seen, the most frequently used ICT is the telephone, followed by e-mailing activities – sending and receiving. While the evidence is not conclusive, one might tentatively suggest that for the respondents – and many others encountered in the course of the research – these technologies are important only as they enable information gathering and communication geared toward building personal relationships and improvement in personal conditions. While the connections exist, at the moment, the current motivations for the utilization of these technologies seem far removed from the rather lofty goals of national economic growth and increased productivity at the micro level. Also, actual usage of ICTs by respondents is clearly disconnected from their expectations (discussed in the next section) about the potentials of ICTs as tools for socio-economic development. While respondents expect much from ICTs, they do not equate their patterns of ICT usage with these expectations.

It might be argued that given the socio-economic level of respondents and their marginal participation in industry or policymaking, their more personal usage of ICTs is predictable and not in any way suggestive of the trend among the general population, particularly those in the vanguard of the discourse on ICT for development. But this tendency was also observed in the interviews with public officials (in the previous chapter). While they expressed great optimism about how ICTs will increase their individual work productivities and eventually lead to macro socio-economic growth, this was not reflected in their ICT practice. Only few of the policymakers interviewed during this research used the ICTs available to them for official purposes. For instance, one said he used his e-mail access to communicate with friends and relations living outside the country.

It was also observed that two directors in a significant ministry who had access to the Internet from their offices used their e-mail facilities mostly to contact friends and relations living abroad. One subscribed to a newsgroup of his ethnic group in the Diaspora and spent hours participating in online discussions of issues far removed from ICT policy and practice in the country. Another had just returned from a continental conference and spent the next few days downloading photographs taken at the conference and which had been circulated by another conference participant. With the slow speed of the Nitel account this director used, the downloading process was to take the better part of one week, and fascination with and discussion of the process consumed many working hours. Another top public official confessed that she was too busy with other things – "children and family" – to have time for the Internet. It was not evident that she personally used any ICT even though there was a desktop computer on her desk. Her personal assistant and secretary seemed to provide all her word-processing needs. And with the difficulty in reaching people by telephone given the telecommunications problems in the country, even the action of dialling a phone number was usually delegated to personal office staff.

Cost of access: Cost of access to the technologies is expectedly a major determinant of their diffusion in a country such as Nigeria with high levels of poverty. This was a common theme in the comments of respondents in the open-ended section of the questionnaire. But while there was unanimity about the high cost of access, the different constructions of access mediated any clear determination of how much respondents spent and on what level of access.

Those who interpreted "direct personal access" to the Internet as their ability to pay to use the technologies at business centres and cyber cafés would speak of access in terms of the per-minute-rate they were charged. And with this understanding, they reported that it cost them approximately ₦50 to ₦300 each time they accessed the Internet – depending on how long they stayed online and the per-minute rates at the cyber café they patronized. In Lagos, the average rate was five Naira per minute while in Abuja and Port Harcourt, it ranged from ten Naira to ₦15, depending on if the connection was through Nitel dial up or VSAT, with the later costing less.

Other respondents who said they had direct personal access to the Internet would later say that the access did not cost them anything because they got it "free at work," "free at a friend's house," "costs me nothing because a friend/relation owns a business centre" or "costs me nothing because a friend does it for me." About 19 of the respondents understood "direct access" to mean their ownership of an Internet account for which they paid an annual fee to an Internet service provider. And to these respondents, access cost them between ₦2,500 a month to ₦50,000 a year.

6:4:5 Sophistication of use

As in the previous chapter, I again use the Mosaic Group framework to analyze ICT usage among the survey participants in order to draw tentative conclusions about the larger Nigerian society. Sophistication of use is one of the dimensions in the Mosaic Group framework for analysing global diffusion of ICTs (Mosaic Group, 1998). This dimension highlights the number of people who use ICTs, points of access and purpose.

> Of particular interest is the "elbow" reached when the service is mature enough to attract interest and use outside the narrow community of technicians. A second major milestone is reached when the user community transitions from only using the (technology) to creating new applications, sometimes eventually having an impact on (use of the technology) elsewhere.[19]

The levels of measurement for this dimension range from 0 (non-existent) to four (transforming). In between are levels one (assisted), two (conventional) and three (innovating). In the above sections, I have presented the various ways, places and purposes of usage of the different ICTs by participants in the questionnaire portion of the research. But the questionnaire also specifically asked questions concerning the particular activities engaged in the last time an ICT was used by respondents. For the computer, the question was posed: "The last time you used a computer either by yourself or through some other person, what did you do?" The options were: typed a personal letter, typed an official letter, typed an e-mail, typed a résumé (or CV), typed a document related to your work or business, prepared a school project (term paper or thesis), used it to carry out your routine office work, played a computer game, accessed the Internet, other.

---

[19] Goodman, Seymour E., Grey E Burkhart, William A. Foster, Laurence I. Press, Zixiang (Alex) Tan and Jonathan Woodard, *The Global Diffusion of the Internet Project: An Initial Inductive Study*, a Mosaic Group Report (March 1998), p. 9

Respondents were told they could choose more than one activity. A similar question was asked concerning the last time the respondent used the Internet during the one month prior to participation in the research. The options were: E-mail (receiving and sending), Internet search, browsing and other. Again, respondents were allowed to choose more than one option.

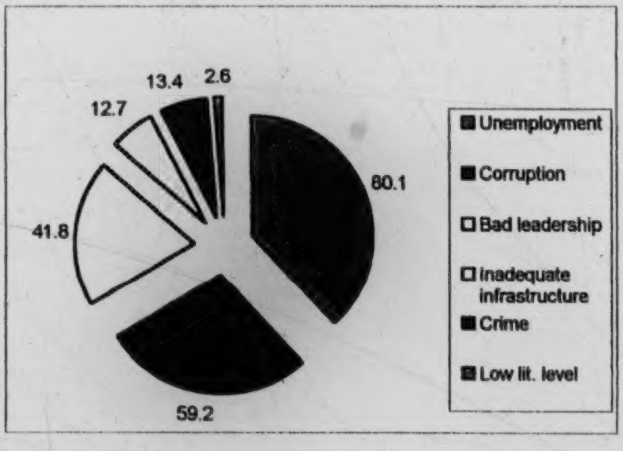
Typing up an e-mail message was the most common use of the computer, by 53.3% of 212 respondents who had used the technology in the month prior to the research, followed by typing of personal letters by 42% of the respondents. The third most common use for the computer was to access the Internet, by 37.7% of the respondents. About 34% of respondents used the computer to type official letters, 30.7% did routine work while the same number played computer games. Eleven respondents engaged in activities outside the list, but mainly for learning purposes – learning to type, how to use the Internet, how to design a web page and trying out new software packages. Of 157 respondents who had used the Internet in the month preceding their participation in the survey, 100 reported that their last Internet activity was e-mailing. The pattern was the same when analyzed by gender and by city of research: e-mailing was the most common use of the computer and Internet.

The results show that respondents' usage of many ICTs was conventional – Level 2 on the Mosaic Group analytical framework. While more than half of them had used one form of ICT or the other, established practices were not altered or challenged. The overwhelming engagement in e-mailing only replaced traditional letter writing as means of communication – except now the process was faster and relatively cheaper. Thus the technologies, as currently applied by the respondents, are not innovating. Users do not push the boundaries by exploiting more sophisticated ways of using the technologies. They are also seemingly reluctant or unable to use the technologies toward the achievement of the national goals on ICT policies. Ironically, this lack of innovation in the use of the technologies does not rein in the high expectations that respondents have concerning the capacities of ICTs, analysis of which follows.

6:5 Attitudes to and expectations about ICTs

At the beginning of the questionnaire, respondents were asked to choose three issues, from a list of ten, which they considered as the most important socio-economic concerns in Nigeria. The issues were: unemployment, inflation, low literacy level, corruption, poor

Chart 6-5: Top most important socio-economic concerns in Nigeria (by percentage of times selected)



health services, and inadequate infrastructure –such as electricity, communication facilities and pipe-borne water, bad roads – hunger, crime and bad leadership. Respondents – across city and gender – consistently chose unemployment, corruption and bad leadership as the three most important socio-economic concerns in the country. (Chart 6-5) Three other issues – inadequate infrastructures, crime and low literacy level – were also selected. In Abuja, seven of the 47 female respondents chose inflation as one of the three most important socio-economic concerns in the country. Generally, 80.1% of the respondents in all three cities chose unemployment while 59.2% and 41.8% said corruption and bad leadership, respectively, were among the three most important socio-economic concerns in the country.

The ten issues were deliberately selected to reflect the objectives and aspirations of policy makers and Nigerians concerning the capacities of ICTs to generate socio-economic development in the country. And many of these issues were used in constructing the statements in the matrix section of the questionnaire, included to find out the ways in which the statements of policy makers, especially as contained in the policies on ICTs, are reflected in respondents' personal beliefs and expectations about the possibilities of ICTs. This section was also aimed at providing the connections between the top most important socio-economic concerns in the country and the role of ICTs in effecting changes. A list of 11 statements beginning with "ICTs will …" were read to respondents who were asked to indicate if they strongly agreed, agreed, neither agreed nor disagreed, disagreed or strongly disagreed with each.

More than half of the respondents strongly agreed that the new ICTs would stimulate socio-economic growth in Nigeria, while 35 % simply agreed. (Table 6-5) Respondents also strongly agreed (by 38%) and agreed (by 41%) that new ICTS would create employment, while 42% strongly agreed ICTs would improve their standard of living. About 32% of respondents strong agreed (and 31% agreed) that the technologies would raise literacy rates in the country. Many were however ambivalent about the capacity of the technologies to check corruption and inflation – two issues respondents identified as major socio-economic concerns in Nigeria. Some respondents wondered how ICTs could check corruption, with some suggesting that the technologies might actually open up new avenues for corruption in the country.

Table 6-5: Expectations of the potentials of ICTs (by percentage of respondents)

ICTs will ...	**SA**	**A**	**NA**	**D**	**SD**
Stimulate socio-economic growth	52	35	8	3	0
Create employment	38	41	13	5	1
Facilitate health delivery	36	44	12	5	1
Raise literacy rates	32	31	15	13	5
Check corruption	9	18	34	25	10
Check inflation	10	24	32	21	9
Reduce crime rate	14	28	19	24	12
Eliminate hunger	8	13	28	35	14
Solve the problem of bad leadership	12	25	18	28	13
Politically empower Nigerians	20	33	21	18	5
Improve my standard of living	42	40	9	5	1

Legend: SA – Strongly Agree; A – Agree, NA – Neither Agree nor Disagree,
D – Disagree, SD – Strongly Disagree

6:6:1 Common themes

The open-ended section of the questionnaire provided the opportunity for respondents to expand further on their ICT usage patterns with emphasis on the factors that are likely to increase their level of ICT practice. Specifically, respondents were asked: “In your opinion, what factors or conditions will promote the rapid diffusion and use of new ICTs in Nigeria?” The responses are presented in the next section. For now however, I consider the three major themes that emerged from the open-ended section of the question concerning respondents’ aspirations about ICTs.

Employment as a major concern (and therefore the object of much optimism) was expected. As already explained, youth corps members are recent college graduates who do a one-year national service after graduation. For most of them, the year of national service is the only guaranteed employment (and therefore source of income) in the foreseeable future given the high employment rate in the country. Unemployment is therefore a definite major concern for the respondents. This explains why 80.1% of respondents said it was the most important socio-economic concern in Nigeria. They expressed the hope that ICTs would create employment for them at a very personal and basic level. There were responses such as:

> New ICTs will affect my life in terms of creating job opportunities.
>
> It will broaden my knowledge (through) getting to know more about other professions thus giving me an advantage of getting a better offer in terms of employment.
>
> Through ICTs, I can get employment instead of sitting at home.

> There's development everywhere. As a civil engineer, I'll know about job opportunities.
>
> I hope to acquire my system very soon. It will stimulate my economy. It will create job and employment for me. It will make me to be creative. Generally my standard of living will improve. It (will) give me awareness and (and make me) highly educative.
>
> I believe from them I can get enlightenment and can improve on my knowledge so as to make myself marketable.
>
> With ICTs being the current rave of the moment, a lot of opportunities, careers and employment are just within my reach.

Information was the second theme around which participants' expectations about ICTs were framed. They said the technologies would keep them informed about events at home and abroad.

> Positively, ICTs will make me informed about events at home and abroad. (They will) improve my skills.
>
> (ICTs) will make communication easier … Information is gotten easily and fresh (news) – that is on cable and Internet.
>
> The ICTs will make the world a global village because there will be easy access to new information.
>
> (ICTs) will increase communication efficiency… Access to information … possibly better job opportunities.
>
> The new ICTs will personally affect my life in the next five years due to the fact that information required will be easily reached in terms of (movement, standard of living, employment, etc.)
>
> It will enable me search and receive information from other jurisdiction that will help me increase in knowledge in my field of study.
>
> I personally believe that ICTs will affect me positively in the next five years because a better-informed person is better guided.

> The world is now a global village due to ICTs so it is going to affect my life in all aspects. I can learn about everything I want to and visit everywhere I want to without leaving my locality.
>
> If I have the right knowledge as well as access to the new ICTs, it will get me exposed to so many ideas and practical ways of being a success and contributor to the society I find myself when I apply to my course of study – Animal Science.
>
> Information makes the world go round. Personally new ICTs will enable me get informed faster and aid distance learning programs.
>
> It will increase my general information base and help me keep in touch with people and places.
>
> Will give us update of happenings around the world and would also reduce time spent at work in sourcing for data or information.

Communication was the third major theme in the expectations of respondents of the new technologies. Access to communication may be taken for granted in some countries such as Guernsey (in Europe) with 87.50 main telephone lines per 100 inhabitants (in 2001).[20] But in Nigeria, with a teledensity of 0.43 per 100 inhabitants, ability to communicate is very important. As has been seen in the usage of specific ICTs, respondents use the telephone (mobile and fixed-line) mostly for (personal) communication within the country and e-mailing for international communication, though the rate of in-country e-mailing is rising. This also came through in the expectations of respondents about ICTs in the area of communication. There seemed to be a split between domestic and international communication with some respondents expressing their communication needs to be local as well as international. Many who believed that ICTs would facilitate communication for them expressed the need to stay in touch with friends and family living outside the country.

---

[20] This country had the highest teledensity in the world in 2001, followed closely by Bermuda (87.15 main lines per 100 inhabitants). Source: International Telecommunications Union, June 2002. Data available at the Union's website: www.itu.int.org

6:6:2 Emerging issues: Awareness, access, affordability and availability

Analysis of the responses in the open-ended section of the questionnaire as well as discussions and interviews with officials in both the public and private sector shows that four major factors would facilitate or hinder the rapid diffusion and usage of ICTs in Nigeria. These are awareness, access, affordability and availability, here referred to as "The 4 As of ICTs in Nigeria."

Awareness: Many respondents expressed concern about the lack of awareness of the "benefits of ICTs" especially among women, arguing that awareness (as well as the other As) will determine how rapidly ICT usage spreads in the country. They offered suggestions on ways of raising public awareness. Some samplers:

> (People should be made) aware of the fact that a lot of information can be passed and received both locally, internationally at minimal time.
>
> Introduction of computer studies in secondary and primary schools and teaching people at subsidized rate.
>
> Reduced price (cost), education through seminars such as "Educating people about how ICTs" will help people improve their business awareness, especially among students. If people are familiar with it in schools, they will use them in business.
>
> Public enlightenment on the advantages of ICTs – and what people stand to gain from the "venture." Motivation on the part of government, availability of resources

By making more people to be involved in the new ICTs in Nigeria because some literates are still not ICTs literate.

ICTs can be rapidly promoted in Nigeria if the Primary Education Board can introduce it as a course at the primary, secondary and tertiary level. Also adult education program should be embarked upon to educate the masses on how to use the ICTs.

Educate people on the use of the new ICTs. Make computer courses compulsory in schools. Provide more cyber cafés in towns and villages.

Bring these ICTs to the family level. Make computer literacy a prerequisite for employment.

Give women preferential treatment – gender discount in prices of ICTs.

Have schools where they (women and girls) can learn (ICT) use at a very cheap rate.

Make it mandatory as household equipment so that they (women) can teach themselves. Also offer free study/education to them.

Introduce (women) to ICTs mostly through schools, church groups. It's not every home that can afford these … Most likely the girl children, if they are taught to play games on computers, they will try to understand what all of that means …

Its practical use or application should be emphasized at all levels of educational sector in the country.

There must be legislation to promote it, increase in government spending on science and technologies, training of staffs (government and private) and re-orientation of the populace on the usefulness and benefits of ICTs.

Allow (women) to be educated and … part of decision-making and not staying in the kitchen alone.

Access and availability: It is one thing for Nigerians to be aware of the benefits of ICTs; and going by the current wave of publicity campaigns, a majority of them may very well be. But it is another thing to have access to the technologies after being fully aware of their benefits. Titi Omo-Ettu, who defines access as the "distance a citizen must travel to be able to use the telephone and at a price he (sic) can afford,"[21] argues that one should not travel for more than half a kilometre to find a phone, and in Nigeria, a call (local or national) should not cost more than two Naira per minute. He distinguishes his definition from teledensity, which he says is a measure that does not work for developing countries because a high teledensity does not necessarily mean that majority of the people can afford to use a telephone – in terms of the cost of access. As noted earlier, there is no confirmed data about the quantitative level of penetration of the various ICTs in the country, and therefore no accurate way finding out the degree of access, though there is no doubt that the country is far from reaching Omo-Ettu's access threshold.

Despite the absence of reliable data however, stakeholders in Nigeria's ICT sector are convinced that universal access is attainable even in the country because as one interviewer put it "there are telecentres all over the place." By telecentres, he did not have in mind the community-based Internet facilities available to people free of charge in North America, the United Kingdom and Australia.[22] Telecentres, as understood in Nigeria, are the commercial cyber cafés that are mushrooming particularly in the three hi-tech cities of the country. They are present in some other cities but are very few in numbers and not within the reach of many – both geographically and economically.

---

[21] Titi Omo-Ettu, personal interview in Lagos, November 2001

[22] In Brisbane, Australia, these centres are provided mostly through public libraries. In the local community libraries, people are free to use the facilities without prior bookings. In the Queensland State Library in downtown Brisbane, anyone can use the Internet-connected computers for 15 minutes, as they are available, but more extensive use (from 30 minutes up) requires prior bookings. The facilities are free and available to anyone who walks in through the library doors. In the UK, there are similar public-access centres. Apart from the "information-cyber" at Radio House, Abuja, there were no such centres in Nigeria as at the end of 2001.

There are two primary options for accessing the Internet at cyber cafés: some customers choose to pay the per-minute "browsing" rate or simply pay a flat fee to send or receive e-mail. The first option works for people who have some level of computer and Internet literacy as the minutes begin to run as soon as they log in. For most people, the cheapest way of "browsing" is to type up e-mail messages elsewhere (at home or office) and bring them to the cyber café on a diskette. Also, rather than reading their messages online, they copy and paste in a word processor and save in their diskette and read and respond to offline elsewhere. For people who cannot do this, they end up paying for both the word processing and the cost of sending the e-mail, either through the cyber café's account or a customer's Yahoo! or Hotmail account.

To increase wider access, the National Information Technology Development Agency (NITDA) plans to set up mobile Internet units (MIUs) that will travel from one local government area to another teaching people the benefits of the Internet and how to use them. There are also plans to provide points of access through the Local Information Infrastructure in the 774 local government areas. While this project may diffuse Internet usage in the country, there is an assumption that one access centre is sufficient in places where there may be as many as one million people, most of who live in remote rural areas with inaccessible roads that are even more so during the rainy season. Certainly, a few people in the nooks and crannies of the local government areas will have pressing enough needs to travel to the local government headquarters to send e-mail. But the experience at Radio House in Abuja (headquarters of the Federal Ministry of Information), where the waiting period can range from 30 minutes to four hours foreshadows a situation where "going to town to send an e-mail" would be a full-day's activity for many rural dwellers.

Others have suggested that eventually, telecentres, as understood in the West (as community-based communications centres with free access to the public) will be put in every village. A touch-tone technology (as observed) in Cape Town, South Africa[23] will bypass the need for literacy, as symbols rather than letters, will be used to guide the user through the system. A less utopian scenario involves setting up village telecentres with skeleton trained staff who will assist users (as is the case in many of the cyber cafés in the cities).

Accounts of the wonders of these technologies and the prospects for universal access always take it for granted that the rural woman's need for information that emanates from this medium will be crucial to her life. A source spoke about how information on planting season and the best time to plant as well as prevention of malaria will be useful to the rural dweller. This information will be made available on the Internet and made accessible to rural dwellers. Again, there is an assumption here – and some may call it arrogance – that the "information from above" will be superior to the local knowledge systems. A village farmer is not likely to depend on information from "outside" – from people who are not familiar with his soil and its needs – to tell him when to plant his seeds. Some soils are better suited for the planting of certain seeds than for others, and the soil variation can be vast even within the same locality. To be able to deliver useful information, the experts must be part of the local community, and if they are, there are more immediate and trusted means of disseminating their knowledge (the town crier, marketplace, the stream or well, village hall, etc.) than the Internet. This point is not to deny the utility of ICTs to people in rural areas. One is only questioning the utopianism that pervaded the responses of some of my interviewees, especially those from the private sector.

---

[23] This was observed during a visit to the city in May 2000.

At a more practical level, research questionnaire respondents suggested that government could increase access by subsidizing the cost of acquiring ICT training and the technologies themselves. They also said the government could get into the business of setting up cyber cafés to charge lower rates than are obtainable in commercial centres. Some of the interviewees also think that the Internet Service Providers (ISPs) should charge lower rates so that cyber cafés can offer their services to the end users at more affordable rates. Said Emmanuel Ekuwem, vice president of the Nigerian Internet Group:

> ISPs have to break even, I agree but it's not something that they will break even overnight by embarking on cutthroat prices. There should be no monopoly. We have to encourage as many ISPs as possible to go to each of the state capitals. Monopoly will eliminate competition and when there's no competition, it means there'll be a dictation to the people in terms of the price, the people are held to ransom by the solo ISP in the state concerned. There must be level playing field, competition, awareness, transparency and openness.[24]

---

[24] Emmanuel Ekuwem, personal interview, Lagos, November 2001

In the same vein, Omo-Ettu suggested that the providers of the various ICT services in Nigeria should take advantage of the huge population by reducing their costs to make their services more accessible. His argument is that population is a strength that the Nigerian ICT industry can use. For instance, if five million people have access to the telephone and can talk to another five million people, "it is a lot of empowerment. You begin to look at the traffic … if the investors provide these 10 million telephones, and we have to provide at affordable price to these people, then it is not going to take a long time for the returns to come."[25] And if this happens, then the providers can offer their services at two Naira per minute because that is "what Nigerians can afford."[26] In the end, both the investors and Nigerians benefit and telephone usage spreads, said the self-styled grassroots engineer.

Affordability: "Cost," "price" and "affordability" appeared constantly as a response to the question: "In your opinion, what factors or conditions will promote the rapid diffusion and use of new ICTs in Nigeria?" While the cost of many ICTs fell drastically between 2000 and 2002, affordability remains a significant factor in the diffusion and use of ICTs in the country. For instance, as noted earlier, many of the questionnaire respondents did their Internet activity in cyber cafés. For many of them, each time they accessed the Internet, they spent at least ₦50, and often, this would translate to about five minutes of access – depending on the location. Considering the fact that NYSC members earn

---

[25] Titi Omo-Ettu, personal interview, Lagos, November 2001

[26] Ibid.

₦2000 a month, with the lucky ones getting some accommodation and transportation allowances from their primary employers, there is an obvious economic constraint to the intensity and frequency of usage of many ICTs.[27] While the telephone was the most frequently used ICT, according to the results of the questionnaire, only about 53.5% of the respondents used it up to four times in a month, while 29.1% of those who had used the computer in the preceding month regularly used it between four times and daily in a month. Some respondents admitted they had used the computer only once ever, and were not certain of using it again in the next 12 months. Also, just 29.5% used the Internet over four times in a month and 26.6% sent e-mail over four times in a month. Of the Lagos respondents, 35.5% received e-mail over four times in a month while 16.2% of Port Harcourt respondents received this number of e-mail in a month. About 44.6% of Abuja respondents received an average of one e-mail in a month. In verbalizing their responses (and in the open-ended section of the questionnaire), respondents said they would use the technologies more frequently if cost of access were lower.

6:7 Conclusion

The diffusion and use of ICTs as tools for socio-economic development in Nigeria is a multi-sectoral project, despite policymakers' insistence on the marginal role of the state. To achieve the kind of development that meets the needs of the greater number of people in Nigeria through ICTs, all sectors need to be involved in the process. It was thus necessary to attempt an understanding of the responses of a cross section of mass society to the discourse that links ICTs with development by examining the specific ways in which a group of college-educated Nigerians under the age of 30 engaged with these technologies. In this chapter, I have presented and analyzed the responses of 306 participants in the questionnaire portion of this research. The inclusion of this component conforms to the multi-sectoral and critical/structuralist nature of the research. The questionnaire facilitates a closer examination of not only the practice of ICTs, but the issues that have emerged in the process of diffusion, usage and harnessing of these technologies as tools for socio-economic development in the country. From these responses, one finds that factors such as awareness, affordability, availability and access will be critical to the ICT-for-development project in Nigeria. Some of these have been discussed, but will be further examined in greater detail in Chapter 8 in the discussion of the obstacles in Nigeria's journey to the global information society.

---

[27] During the NYSC year, it is the responsibility of the federal government to pay the corps members, and primary employers in the places of assignment/posting are not required to make any contributions. But in places with transportation difficulties (such as Lagos) or accommodation scarcity (such as Abuja), employers offer some stipends to corps members as an incentive to attract them, as they are considered cheap (but knowledgeable) labour.

One notes the low level of penetration of ICTs in the country – far below the average for Africa, which is already the least connected region in the world. This penetration level obviously affects the awareness of Nigerians and usage of ICTs. It has already been acknowledged in this chapter, and the theme cuts across the analysis in the dissertation that the diffusion of ICTs in Nigeria is uneven and the technologies have sparsely penetrated the country with higher levels of access and availability observed in the three "high-tech" cities of Port Harcourt, Lagos and Abuja, and usage occurring mostly among a small clique. This distortion is not evident in the patterns of usage by the 306 respondents of the questionnaire because the gap between those who used or had access to the technologies and those who did not in the month prior to their participation in the research was not significant, relative to what was observed in the larger society, 60% of who live in homes without electricity. This limits the ability to generalize the ICT experiences of this group to the larger society, especially given the age, education level and the geographical location of the respondents and the size of the sample. For instance, the fact that they work and live in three major cities (with infrastructures not available to most residents of other cities) already puts the research respondents far above the level of the "average Nigerian." Nevertheless, this group is a critical one for a number of reasons including some of those that make their usage pattern atypical of the general population: their level of education and general awareness. Therefore, how this group engages with these technologies, while not representative of 116 million Nigerians, does throw some light on the general pattern of ICT usage and diffusion in the country, as well as issues of access and affordability.

In other countries (both developing and developed) many of those at the vanguard of ICT for development belong to the age group and education level of the questionnaire respondents. And while there is no attempt to compare the level of awareness of these respondents with their counterparts in other parts of the world, this group cannot be easily dismissed. Their level of awareness of ICTs and utilization of the technologies can be indicative of the path Nigeria is taking toward the global information society. Also, as seen in the previous chapter, even among policymakers themselves, there does not seem to be any convergence between their public statements about ICTs and private practices with many of them proudly declaring their ignorance of the technologies. The most active people in the ICT sector in the country at the moment are those in the niche of the private sector concerned with marketing ICT product and services. While some of these groups (like Zinox Technologies) have embarked on the creation of awareness about ICTs in the country, their motivations are profit oriented and there is an extent to which they can go beyond their economic interests.

Given the background of questionnaire participants, their relative low awareness and usage of ICTs raise concern about the prospects of harnessing ICTs for socio-economic development. That is, if these respondents (better positioned than the "average" Nigerian) record such low ICT usage and awareness, what are the prospects that the rest of Nigerians can usefully engage with these technologies to achieve their socio-economic goals? Respondents agreed that ICTs have potentials to generate employment, facilitate communication and access to information, but acknowledged that some conditions would be critical to the ability of Nigeria as a country and its people to reap the full potentials of ICTs. Some of these issues are the 4As – access, awareness, affordability and availability. Research participants mostly called on the government to address these issues through publicity, rebates on the purchase of ICTs and training as well as make IT literacy a prerequisite for employment (as an incentive for people to acquire IT training). The perception that it is the role of government (usually expressed by respondents as "they") to facilitate access to ICTs ties back to the point made earlier about the developmental nature of the Nigerian state. In Nigeria, the state has always been at the forefront of development efforts, and one might argue that this is why the problem of underdevelopment persists in the country. But this may also explain the vagueness in the ICT policies about the role of the different actors. As noted earlier, government plans to harness ICTs for development, but it wants to leave the development of the technologies to the private sector whose goals are, by definition, different from that of the government.

Thus one may come to the conclusion that given the difficulties so far experienced by a cross section of the mass society – those who neither make the policies nor are driving the directions (and costs) of the technologies – the ICT-for-development project is likely to go the way of previous strategies of development in Nigeria (see Chapter 3). The private sector, by itself, will be unable to drive developments in ICTs given the potholes that litter Nigeria's path to the global network society. But the state can help by tackling the larger problems – such as the state of the infrastructure – such that there are spill-over effects to other sectors of the economy which would indeed aggregate in economic growth in the country. In the process, government succeeds in facilitating the development of the ICT industry (by the private sector) without ignoring the more urgent needs of the people. This point is discussed in greater detail in Chapter 8.

Meanwhile, in the next chapter, I move from the seemingly gloomy state of ICTs in Nigeria (represented in this chapter) to examine the attitudes and perceptions of the capacities of these technologies as articulated by key actors in the industry (from both the public and private sectors). As will be seen in the chapter, everything about ICTs is good and damned is the country that will not rise up to take advantage of these defining technologies of the 21st century – according to many of the people who participated in the personal interviews portion of the research.

References

Goodman, et al, *The Global Diffusion of the Internet Project: An Initial Inductive Study*, a Mosaic Group Report (March 1998)

Kendall, Kenneth E. (ed.), *Emerging Information Technologies.* (Thousand Oaks, California: Sage Publications, 1999)

Murphy, John W., Algis Mickunas and Joseph J. Pilotta (eds.), *The Underside of High-Tech: Technology and the Deformation of Human Sensibilities.* (New York: Greenwood Press, 1986)

Spender, Dale, "The Position of Women in Information Technology – or Who Got There First and with What Consequences?" in *Current Sociology* April 1997, Vol. 45(2)

World Economic Forum, *The Global Competitiveness Report, 2001-2002* (Oxford University Press, 2002)

References on the WWW

International Telecommunications Union (ITU) Report, June 2002, available at www.itu.int.org

Nigerian Communications Commission website: www.ncc.gov.ng

Chapter 7

Making the connections: Narratives of information and communication technologies and socio-economic development

7:1 Introduction

Folktales, children's stories and other tales by moonlight are filled with narratives of heroism, and of how a particular event or thing makes the turning point in the life of an individual. Many cultures have variations but the common theme is framed around the journey from rags to riches, differing only in the elements that cause the transformation. Among the Annang/Efik/Ibibio people of Nigeria, many of the popular folktales are told within a certain moral framework that ultimately manifests in material wealth. There is the story of Arit-Eno in which the heroine is a wilful only child who (through an act of disobedience) ends up as a servant girl in Obio Ekpo (or the Land of Ghosts). But the experience transforms her into an obedient and submissive young woman who eventually finds social redemption and acceptance. Through her changed behaviour, Arit-Eno "humanizes" the citizens of Obio Ekpo such that her grateful captors allow her to re-unite with her family in the Land of the Living. She does not return empty handed, but is sent back with enormous wealth, which subsequently raises the standard of living in her family and community. Arit-Eno becomes a metaphor for the "bad girl" – and one who has a chance for redemption if only she will turn from her evil ways.

In many of the popular Nigerian folklores, the agent of transformation is usually intrinsic and moral, contrasting with those from other cultures where the agent of change is often an external sensate object – for instance, Midas golden touch, Aladdin's magic lamp and Cinderella's slipper. In early modern times, agents of change, and the content of many folktales and myths, have included the telegraph, electricity, steam engine, radio and nuclear energy. Fairy tales of the 21st century are constructed around the transforming capacities of information and communication technologies (ICTs). And in recent years, the narratives about the capacities of these technologies for social, economic and political transformations have moved from the sublime to the utopian.

There is also a shift from the ideational to a "thing" (in this case ICTs). The society's modern folktales no longer consist of inner moral attributes as the agents of change but of the acquisition of the "thing" that makes all socio-economic problems go away. Indeed, given the decadence that has beset most of the Nigerian society – so much so that people with morally questionable sources of wealth are honoured with chieftaincy titles and university degrees – it is likely that future generations of children sitting under the moon-lit sky will be regaled with stories of men and women who fell from riches to rags because they could not "play the game" or were too "soft" or "acted as if they were better than other people."[1] Or perhaps, the stories will be plotted around the ways in which ICTs, acquired from Obio Ekpo (or Obio Mbakara – Land of White People), lifted individuals and communities from poverty and peripheral capitalism to the centre of the global information society. And everybody lived happily ever after!

---

[1] These are common references to people who insist on maintaining certain moral and ethical standards especially in their business transactions.

There are similarities between the moonlight tales of rags to riches of a past era (now replaced by celluloid dreams of wealth, fame and glory transmitted from Hollywood to the rest of the world) and current discourses on the transforming capacities of ICTs. Each set of narratives promises immense wealth at the end of a journey driven by either moral attributes or a "thing." And the modern tales about ICTs have pervaded the towns and cities of Nigeria. In newspaper columns and features, journalists and other writers pontificate about the dangers that will fall upon the country if it does not join the technological revolution. In Nigeria's "ICT circles," there is a taken-for-grantedness about the inevitability of ICTs such that no one questions any of the claims made by the growing army of technophiles in the country. This is precisely the nature of myth making and mythologies. To succeed, myths must take over rationality by concealing some truths while drawing attention to others, half-truths and false claims, even as Mosco (1999) and Balsamo (1996) have argued that myths are neither true nor false; rather, they are living or dead. But an important element of myths consists in their acceptance as common sense, natural and immanent part of social reality. "Myths shelter truth by giving it a natural, taken-for-granted quality" and "naturally conjure up a desired end" such that they are socially accepted as "common sense. … In this respect, myths transform the messy complexities of history into the pristine gloss of nature.[2]

Many of the people involved in the process of construction of myths around ICTs and development in Nigeria are in a position to actually promulgate and implement policies aimed at fulfilling their prophecies. However, this position in the society can also be used to create a techno-centric hegemony that lulls the people into thinking that importing the "cargo" is all that they need. In the process they get distracted from the real issues that more directly affect their lives. This prospect makes it important that one examines the process of myth making, as manifested in the language that key actors in Nigeria's ICT industry use to articulate the connections between these technologies and socio-economic development. In this chapter, I set out to do exactly this through a set of semi-structured interviews with 14 people (ten men and four women) important in the ICT industry in Nigeria.

While the interviewees are few in number and therefore not representative of the general population, their opinions as policymakers and top private-sector actors are crucial to the way ICTs are developed in Nigeria. They structure the manner in which the narratives about the capacities of ICT for socio-economic development are woven into myths, which in turn cloak the ICT-for-development discourse with a certain inevitability and naturalness. The interviewees are change agents (or culture elites) who have logged on to the global discourse on ICTs and downloaded the content for dissemination in Nigeria. Many of them, as well as other culture or modernizing elites in Nigeria, present the gospel of ICTs in ways that silent any critical analysis. The fervour with which many have preached the ICT gospel led to the conversion of President Obasanjo from an ICT-phobe to an ICT enthusiast just a few months after his inauguration in 1999. (See Chapter 4) The result has been the promulgation of IT policies that slant heavily in favour of the profit orientation of the private sector and some elites. In Nigeria, the ICT-for-development discourse therefore remains an elite-driven one without the social and political resistance that is emerging in many countries in the West (raising issues of digital divide, privacy and child pornography on the Internet). Grassroots movements, NGOs and traditional pockets of resistance (such as there are in a country where various military governments had destroyed or co-opted hitherto credible opposition) are competing with other groups and individuals to get on the ICT bandwagon.

---

[2] Mosco, Vincent, "Myth-ing links: Power and community on the information highway," *Information Society*, Jan-Mar98, Vol. 14 Issue 1, p57, 6p. Retrieved from Academic Search Elite (EBSCOhost Item 706465)

The research, as presented in this chapter, shows that as in previous projects of development, the ICT-for-development discourse is quickly sliding into the abyss of sloganeering. And if this trend is not checked, ICTs as tools for socio-economic development in Nigeria may ultimately be dumped in the scrap heap of history, just like previous national development plans. In Chapters 1 and 2, I showed how the current ICT-for-development discourse is structured by theories of modernization and development information (or communication and development). This explains why many scholars and practitioners had, until recently, uncritically advocated ICTs-for-development as the new paradigm and ICTs as the new tools of development. While more critical studies have emerged in recent years, there is still a dearth of critical analysis of the process through which ICTs can lead to socio-economic development. Many of the assertions that inform policy in many developing countries are still presented in quintessential fairy tale narratives, filled with idealistic proclamations about the wonders of ICTs – technologies that are currently accessible to only an insignificant percentage of the population. This dissertation is partly aimed at making a critical contribution to existing body of research. To achieve this objective, the research methods included semi-structured interviews of some stakeholders in Nigeria's ICT industry.

Questions were raised to give the interviewees an opportunity to move beyond the polemics and clearly articulate the process through which ICTs can lead to socio-economic development in the country. The interviewees were asked the same set of questions, with variations based on each person's role in Nigeria's ICT sector. But everyone was asked the question: what are the connections between ICTs and socio-economic development? In adherence to the folk-tale metaphor that frames this chapter, the interviews are presented as (italicized) "narratives" in the words of the interviewees, albeit preceded by a brief introduction of each person.

The chapter is organized around five sections beginning with this introduction. In the next section, I present a brief discussion of the process of myth construction and the myths that surround ICTs, particularly in terms of the claims about their historical break with the past and capacities to radically transform societies. In the discussion, I draw from scholars who have written on myth-making generally, as well as those who have specifically focused on the myths of ICTs. In the third section of the chapter, I present the narratives of the people interviewed and how they made the connections between ICTs and socio-economic development. The narratives are followed by a discussion of three of the common themes raised by interviewees in their articulations of the connections between ICTs and socio-economic development. These themes, which centre on the benefits of ICTs, are: employment, reduction in bureaucracy and corruption and reduction in road accidents. I conclude the chapter in the final section.

7:2 ICTs in the land of mythologies

Nigerian IT enthusiasts are not alone in the current wave of myth making that surrounds these technologies. Indeed, one could argue that (given the globalized nature of the new folktales), they are responding to and locally articulating Western techno-centric myths and happily-ever fairy tales about ICTs. Admittedly, people in western societies, especially North Americans, have since settled down to the realities (and "underside") of these technologies, but the novelty is yet to wear off in many developing countries such as Nigeria. In fact, there is a sense in which one might argue that the myths about ICTs and their capacities are just beginning to build up in places outside the West. As recent as 1999, Mosco made reference to what he called Gore's Law which "states that myths about the information society double in their distance from reality every 18 months."[3] In Nigeria, the myths double in a shorter time frame and are exponentially accelerated according to the proximity of the narrator to the centre of ICT policymaking and practice.

Balsamo (1996) argues that myths serve as a tool for people to "make sense of our moment of history and a projection of the hopes that we collectively project onto new technologies."[4] The myth-making surrounding ICTs expresses itself in the language used to describe the perceived transforming impacts of the technologies. For instance, the language of "revolution" (as in "information revolution") connotes a "dramatic change" leaving unanswered the question about what exactly has changed and the nature of that change.[5] The beliefs and myths surrounding the "information age" reify information and its status in the current economy. As the Nigerians interviewed during the course of this research asserted, information is the new commodity of value and with access to it, Nigerians and the country would have leverage in their participation in the global economy. But this "quasi-religious *hope*" that information is all that Nigerians need conceals certain questions especially those that concern the veracity of information and information overload, as already experienced in the West. As Balsamo argues:

> Finding reliable information is not easy, even with the best search engines or the most sophisticated knowledge of network navigation, because the issue is not about navigation, it is about the mistaken belief that information is inherently meaningful, or inherently valuable. … At the most basic level, the production of

---

[3] Mosco, Vincent, "Cyber-Monopoly: A Web of Techno-Myths," *Science as Culture*, Volume 8, Number 1, 1999.
[4] Balsamo, Anne, "Myths of Information: The Cultural Impact of New Information Technologies," *Technology Analysis and Strategic Management*, Volume 8, Number 3, 1996, p.341.
[5] Ibid.

> data does not naturally yield useful information. (Also) accumulation of information is not equivalent to the construction of meaning. … The construction of meaning is a complex human behaviour that is dependent upon embodied knowledge of individuals – in short, embodied literacy. … Information has to be interpreted to be meaningful; interpretation is an analytical process.[6]

Techno-advocates in Nigeria and elsewhere argue that with access to the Internet and other ICTs, one can obtain unfettered and unmediated information valuable for all kinds of economic, social, medical and educational purposes. But "simple access is not enough to guarantee more knowledge, more power or more insights … Access to technological networks of information cannot substitute for education about the process of knowledge construction."[7] The myth about access to an immeasurable amount of information ignores the fact that "the mechanism whereby information is encoded, manipulated, packaged and selectively disseminated" already circumscribes the kind of information made available to the public.[8] Also, those who control this mechanism are motivated first of all by self- (or national) interest defined economically (in many cases). Market criteria, class inequalities and corporate capitalism determine "who initiates, develops and applies innovative information technologies? … To what end and with what consequences for others is the information domain expanding?" (Schiller, cited in Webster, 1995: 76) With the United States, being the centre of ICTs *and* of capitalism, advocacy of the transforming powers of information as a commodity does not seek to share information equitably; rather, it strives to maintain the structure of capitalism. Capitalism, by definition, thrives on competition and exclusion and succeeds by increasing the gap between those who have and those who do not. Already, there is a "canyon-esque" digital divide between countries who have access to information through ICTs and those who do not. And within countries, the digital divide may be even wider given that in the (pre)industrial age, a major feature that characterizes developing countries is the income gap (Weatherby, et al, 2000). This phenomenon continues into the "information age" and may be even further entrenched through the new technologies of information and communication.

---

[6] Ibid. p.344

[7] Ibid.

[8] Ibid. p.346

Some countries through their international development programs are currently helping to close the divide. For instance, the Canadian International Development and Research Centre (IDRC) funds research into ICT usage in Africa (an example is the Acacia Initiative).[9] The United States government also, through initiatives such as the Lelland Project (aimed at providing Internet connections to some developing countries), undoubtedly works toward expanding access to ICTs in some countries. However, it could be argued that these efforts are not directed at altruistic goals, but to expand markets for ICTs manufactured in the United States, and thus maintain the structure of capitalism, the country's underlying economic and political ideology. Therefore, when the commercial attaché at the US embassy in Lagos, Miguel Pardo de Zela, uses his presence at ICT-related events in the country to talk about the imperatives of the "information revolution," his motives may lean less toward any desire to help Nigeria and its citizens prosper economically, and more at spreading the myths about the inevitability of the "information revolution." The ultimate goal may then be presumed to be the capture of markets for US ICT products and the ideas (or myths) associated with them.

---

[9] Information on this initiative is available at: http://www.idrc.ca/acacia/acacia_e.htm

Balsamo asserts that the myths about the pervasiveness and necessity of information, not just for business but also for individuals "first provoke an anxiety and then offer solutions for its arrest." (1996: 343) For instance, when de Zela of the US embassy in Lagos tells his audience at the events he attends to ask themselves the question: "How do I become more competitive in the global trade system?" he has already established the point that there *is* a need to be globally competitive and the effects of doing otherwise would be disastrous. With the realization of this need, he proceeds to offer three options (or solutions) for Nigerians businesses: usage of IT to do existing businesses better, provision of the software to the consumers, and/or development of new businesses on the Internet – spin-off businesses.[10] In each case, ICT products are required and in a country that currently produces little to none, it is obvious that in order to join the ICT bandwagon, Nigerian businesses must necessarily depend on external sources. Indeed, as at 2001 with no Internet backbone in Nigeria, e-mail from one person to the other within Nigeria first went to the United States before being routed back to the recipient in the country. This resonates of the colonial telecommunications and transportation infrastructures that existed (and still does) in many African countries so that a telephone connection between two African countries is routed through Europe. In the transportation sector, to fly between regions on the African continent requires first travelling to Europe to get a connecting flight back in to Africa.[11]

---

[10] From a presentation by Miguel Parda de Zela at the first Nigerian Internet Convention in Ikoyi, Lagos, September 28, 2001.

Peppard (1993) argues that new ICTs (just as traditional technologies of information and communication) can at once be empowering and disempowering. They empower by facilitating something akin to the "democratization of information" (Friedman, 2000), a situation where individuals are both producers and recipients of information and knowledge ("social" or "collective memory") with a capacity to access all kinds of information. But ICTs also can take away the control and choice of individuals. "History is in fact filled with accounts of individuals who fought, usually unsuccessfully, against the onslaught of misdirected technological 'progress.'"[12] Peppard cites the example of a local bank with three full-time employees who were replaced with an ATM, and the effacing of human telephone operators, for automatic systems. New ICTs can engender a "press 1" economic rationality and efficiency that may eventually result in a human-less economic system that will ultimately preclude a larger number of people from the process. In a global economic system, ICTs can lead to economic growth and integration. They can also create further income gaps between the wealthy and poor countries, and further marginalization of countries that are currently on the periphery of the global political economy. However, this "underside" of ICTs is often glossed over in the narratives that pervade the air in the Land of Mythologies.

---

[11] This problem is one of the issues that the New Partnership for African Development (NEPAD) seeks to solve. Information about NEPAD can be found at: http://www.nepad.org

[12] Peppard, Lloyd (1993), "Information Technology and Society: Issues of Control and Choice." Available at http://post.queensu.ca/~peppardl/infotech.htm, accessed Oct. 30, 2000

Like all symbolic forms (such as language and religion), myths assist the mind to "grasp reality" and make sense of the environment (Cassirer, 1945: 5). In the context of ICTs (especially access to information), the illusion of the myth surrounding access to information succeeds in directing attention to the "*amount* of information (deflecting) attention from questions about the *kind* and *quality* of information disseminated through new communication technologies." (Balsamo, 1996: 346) In the process, the myth conceals the fact that relatively valuable (or proprietary) information comes at a price – for instance, subscription fees charged by places such as Bloomberg (financial news) and the multi-disciplinary research database, Lexis-Nexis.

Myths are also self-fulfilling because they are expressed in language. Herder (1969) suggests that there is an interrelationship between a community's language and its habits of thoughts and modes of life, believing that each nation speaks in the manner it thinks and thinks in the manner it speaks. Cassirer (1946) also makes a case for the connections between myths, words (or language) and reality. Myths, he argued, are symbolic metaphors that mediate between the individual and his or her world. It presents reality even as it creates reality. Discourse analysis also draws attention to the construction of (objective) reality through the interactions between words and actions.

In critical security studies, social constructivists such as Mueller (1989) have made a case for the obsolescence of war, and Wendt (1995) in his theory of social constructivism argues that the concept of anarchy in international relations (for instance) is socially constructed because words, beliefs and attitudes are acted on such that they become the norm of political and/or international life. Specifically, Mueller argues that if the international community believes, just as it did about slavery and colonialism, that war is evil, its actions will enforce this notion such that it becomes a universal norm. Wendt makes the same argument about the anarchic nature of the international system pointing out that "anarchy is what states make it." In a process that Gramsci (1971) referred to as ideological hegemony, the insistence that ICTs are the way of the future has almost become taken for granted, conventional wisdom and natural. Thus the rest of the Nigerian society participates willingly in the propagation of the illusion of ICTs in ways that divert attention from the most urgent issues of poverty and equitable distribution of resources. The discourse about the importance of ICTs as tools for socio-economic development becomes the norm, unquestioned by many Nigerians. The reason is that those who weave the myths and narratives about ICTs and their capacities are influential enough in the Land of Mythologies to have their voices heard and thus inform action, such that their myths become realities.

Even as myths generally can create realities through actions by members of the society, they are also based on some degree of reality for them to become accepted as common sense (or conventional wisdom). Viewed from this perspective, one acknowledges that the narratives of ICTs and socio-economic development are founded on *some* established realities because they are indeed certain benefits of the technologies in some areas of communication, information, community and popular empowerment. In grounding itself on some realities, a myth can serve some useful purposes. In the context of ICTs, these myths highlight the ways in which:

> smaller, faster, cheaper, and better computer and communication technologies help to realize, with little effort, those seemingly impossible dreams of democracy and community with practically no pressure on the natural environment. According to this view, the Information Highway empowers people largely by realizing the perennial dream of philosophers and librarians: to make possible instant access to the world's store of information without requiring the time, energy, and money to physically go where the information is stored. Moreover, the story continues, computer networks like the Internet provide relatively inexpensive access, making possible a primary feature of democracy — that the tools necessary for empowerment are equally available to all. Furthermore, this vision of the Information Highway fosters community because it enables people to communicate with one another in any part of the world. As a result, existing communities of people are strengthened and whole new "virtual" communities arise from the creation of networks of people who share interests, commitments, and values.[13]

There is a strong yearning for community and popular empowerment in Nigeria, but the myths of ICTs, as told by ICT enthusiasts in the country, are specifically about their capacities to meet very basic (physiological) needs, hence the focus on them as tools for socio-economic development. This version of the ICT narrative conforms with one of the functions of myths identified by Mosco: to fill the gap left by human cognitive limitations in ways that speak "to genuine unmet needs and aspirations."[14] In the previous chapter, I argued that the expectations of the new ICTs by 306 young Nigerians were in near-alignment with what they perceived as the three most socio-economic concerns in Nigeria, unemployment, corruption and bad leadership. While respondents were ambivalent about the ability of the technologies to solve the problem of corruption and bad leadership in the country, they saw a connection between the acquisition and diffusion of these technologies and socio-economic growth through the creation of employment. In the personal interviews conducted with some stakeholders in both the private and public sectors, these connections were also articulated. The common themes that emerged from these narratives accordingly centred on the capacities of ICTs to create unemployment, reduce bureaucracy and corruption, and reduce road accidents as the availability of some communication technologies will eliminate the need for routine travels. Interviewees talked about the elements necessary for the country to move from its present level of socio-economic development to the next.

---

[13] Mosco, Vincent, "Myth-ing links: Power and community on the information highway," *Information Society*, Jan-Mar98, Vol. 14 Issue 1, p57, 6p. Retrieved from Academic Search Elite (EBSCOhost Item 706465)
[14] Ibid.

In many ways the narratives about ICTs and development in Nigeria echo the Cargo Cult mentality, discussed in Chapter 2. Howkins and Valantin (1997) argue that while some resist the ICT-for-development discourse, many developing countries respond positively, believing that the technologies will make the global economy a friendly, inclusive and supportive environment that offers a level playing field to all countries. They liken this reaction to that adopted by the Melanesian people in the late 19th century to the arrival of foreign cargo which "symbolized the arrival of a new messianic age, inaugurating paradise." The Melanesians (occupying the islands of the South Pacific) "gave up their indigenous working practices and stopped cultivating their fields" to indulge in a lifestyle that depended on importation of foreign products. In the Nigerian context, ICTs – today's "foreign cargo" – have been imbued with the power to transform the Nigerian society in ways that resonate of messianism.

7:3 Narratives of improvement and transformation

Fourteen people (four women and ten men) participated in the semi-structured interview portion of the research. The portions of 12 of the interviews that relate directly to the connections between ICTs and socio-economic development are presented in the following sub-sections.

7:3:1 Emmanuel Ekuwem

Emmanuel Ekuwem who holds a doctorate in electronics and telecommunications from an Italian university runs Teledom, a three year-old company whose mission statement is "the deployment of wireless access solutions to enable Nigeria leapfrog into active participation in the ensuing global digital revolution." The mission statement, Ekuwem said, was derived from the fact that in an environment with poor telecommunications infrastructure such as Nigeria, "the only way that a leapfrog can be effected is by adopting a technology that is flexible, scalable, fast to deploy, has sufficient bandwidth and is environmentally non-invasive and friendly. That technology is wireless access solutions." The "solution" can provide rapid Internet penetration and therefore enable Nigeria to participate in the "digital revolution."

Teledom in 2001 had a staff of 25 with a turnover in the preceding year of more than one million US dollars. On the level of ICT usage in the company, Ekuwem, who is also the vice chairman of the Nigerian Internet Group (NIG) and a major participant in the proceedings leading up to the drafting of the policy on ICT, said, "we are all computer-networked. There is a laboratory out there. We have R & D, a prototype lab, we test projects, simulate conditions there. We have a dial-up access to the Internet, but now that one of our ISPs is setting up a local broadband station here in Ikeja, we are going to be one of the first clients next month. We are going to have full Internet service by wireless. We have multimedia presentation systems … projector for our conferences and seminars. We have digital cameras, digital blackboards, comprehensive multimedia presentation …"

ICTs and socio-economic development: Ekuwem argues that ICTs are directly connected with socio-economic development because they enable the acquisition of "data information," which he describes as the fifth (and crucial) factor of production in the new economy. He systematically shows the process through which information can enhance productivity in other areas such as development of human resources, education and employment. His narrative follows:

> *The factors of production have been itemized as land, labour and capital, and also entrepreneurial skills. Now we know that the fifth factor of production is data information. Therefore when you have identification of resources – human and material – when you know who does what when and how in this country, not only within this country but also outside the shores of Nigeria. When the average Nigerian entrepreneur, family, or academic institution and the students therein are able to know locally and globally who does what how and when, the speed with which to access those pieces of information, the speed with which to translate those pieces of information into productive*

and creative ventures will give them a competitive advantage. Therefore, for us as a nation ... the moment we realize that fact that we have an abundance of resources – human and material – and information and data that are not even processed into information within the shores of our country and outside, there are so many pieces of information that are useful to this country, that are useful for the revamping of the national economy, that are useful for cultural revolution or ethical orientation. There are a lot of things that affect us as a nation. Access to that reservoir or pool of data information locally and globally, a tool to such abundance that will lead us to such reservoir of wealth is useful for our country and that's why we at Teledom emphasize rapid participation in the digital revolution because it's for the good of the country to ensure rapid development. ... If we as a nation want to be part of that unfolding revolution, we have to ensure that the pipes through which the resources flow are available to every home, to every office in this country. That is why we are very concerned ... we are very committed, we are dedicated and there is no going back. We have to help our country to put the infrastructures that will make this possibility available to everyone.

ICTs are useful tools for socio-economic development precisely (because of their capacities for) wealth creation, job creation, tele-education, telemedicine, digital laboratories ... In Nigeria, these can be achieved through several processes. The first port of call is human resources, human capacity development. And you can see penetration to all the nooks and crannies of this country. IT provides a veritable platform, a veritable channel for formal education of kindergarten, primary, secondary and tertiary (students). IT itself is a channel for education, for training, for imparting of skills. And for the digital revolution to be sustainable, there must be sufficient human resource development to power the engine of change. Man is a primary mover of any economy. IT is a veritable platform on which you can grow human skills. So you can see, that's number one: (IT as) a tool for human resource development.

After that, man (I mean man in the gender-neutral sense) stretches his or her hand to produce, to create because education and training mean acquisition of skills and development of the mind. This means the commencement of impinging on the environment and he needs information even in that commencement, that second phase of wanting to impact on the environment, to start creating, to start producing, he needs information. And he needs to know who does what where because he cannot be an island unto himself. He needs other resources. He needs to partner, he needs to know who's a carpenter, a mason, bricklayer, architect, electronics engineer, civil engineer, a soldier, etc. So you have an interplay of expertise, of sources of facility to use in the productive ventures. So you can see ... that again, IT will be a veritable platform when you access databases, websites, and they can see the websites of who does what where. ... So if many Nigerian organizations and companies and manufacturers of whatever products and services put their wares, their products and services on the web, the web provides a *veritable means of real-time access to useful information that will be used for all forms of production.*

Now, after having produced, or even the process of production means creation of jobs, certain skills will be required and when you see the number of skills that are required (because) one person can not be a harbinger of all kinds of skills ...You need a broad spectrum of Nigerians to do those jobs – men or women. So you are creating jobs because you are going to outsource or bring some (of the work) to do in your company or office. Others, you give out as sub-contracts. So you are creating jobs and employment. Therefore when you create jobs and employment, you are contributing to social security. We want to create jobs and we want to create wealth.

After embarking on these production activities, the third level is the marketing of the merchandize. When you have surplus products and services locally, then you are going to have sufficient private and public utilities working at their full capacity. And that has a positive effect on the economy. When you have surplus, you start exporting these products and services. You even export expertise and knowledge. We have the population and as God would have it, we have a lot of brains in this country, so we export brains. It's not just a question of brain drain, but we have brain in situ while exporting brains. It's a foreign exchange earner too.

When all companies and churches and organizations and factories are putting whatever they do on the web, then we know who does what, when, where and how and faster. The digital revolution is to empower the citizens of the nation in the global knowledge-based economy with the tools, with the prerequisite knowledge to be more productive. It engenders capacity for higher productivity and enhanced creativity.

And the end result will be respect for, happiness with and thirst, passionate thirst, for knowledge. This will engender productive power. It will empower decision makers and policymakers with the right tool to make the right decisions. It will empower the entrepreneur with the right tools to do better business. It will empower the academic, the teacher in the university, primary school, secondary school, and polytechnic with the right tools to get at the students and to liaise with his peers worldwide and to enhance the quality of his delivery (content) of what's he's trying to impact. It will also enrich the students, those to whom this knowledge is being imparted.

7:3:2 Esther Gunda

Esther Gunda is an electronics engineer a former polytechnic lecturer who joined the Ministry of Communications in 2000 as the deputy director of the Technical Services Division. She is particularly passionate about the creation of awareness of the capacities of technologies generally, and ICTs specifically, among women in the country in the belief that "women have a lot to contribute in terms of ICT use and application." She says some women were "unnecessarily reticent of these technologies because they are not aware of the potentials that they can harness from these services." According to her, women are dynamic but not cohesive enough to pool their resources and thus maximize the benefits of ICTs to each other. And cohesion and proper organization were particularly important in Nigeria where in certain parts of the country, a lot of women cannot work outside the home, but with access to ICTs, those with the requisite training can do so, according to Gunda. This way, women who have their own businesses can "sell their products on websites that they may have created for them."[15] The forum would also provide networking opportunities for them so that they can pursue common goals.

> *So that's what we really want to see, especially the business women – small and medium enterprises – that they have to see how they can really use this ICT, especially the Internet, to be able to advertise their products and connect with one another and educate themselves because there is a lot they can gain from the Internet. So what we want to see is if we can convince the women if they can in their cooperative groups ... have telecentres, where, apart from the benefits they get, they can train other women on the ICT.*

---

[15] Even as Gunda, an engineer, speaks of the possibilities that these technologies hold for women, she sees women as being mere users, rather than creators and designers, of the technology. Thus, women can only have "websites created for them" (presumably by men) since they cannot do it for themselves.

Gunda hopes to pursue this vision on the platform of an initiative of the International Telecommunications Union (ITU) aimed at helping women to benefit from ICT. By October 2001, two meetings had been held in Abuja with representatives from the ministries of science and technology, information, women affairs and education. The nascent group of women and ICT in Nigeria are also exploring the possibility of holding a workshop under the auspices of ITU (West Africa) to bring together some women organizations in the region to discuss how women can use ICTs to enhance their own existing concerns and promote their ideas through the Internet.

> *Many people are not aware of it – that this is a tool they can use, a service they can use, a capability they can use to improve whatever plans they have and to implement them. That is really the way I'm looking at it, not just having another NGO on ICT. First what we want to do is have a survey if it's possible so we can see really how much ICT is being applied by women and so on. This is what we want to do as an initial thing which will help us know what (else) to do.*

Gunda admits that ICTs "are for everybody" but for all kinds of reasons – such as demands on their time – women have not yet joined the ICT bandwagon. She insists that ICTs are also good for men but added that the projects she is hoping to pursue are aimed at encouraging women to take advantage of the technologies rather than making a special case for them. She reiterated the point that ICTs can enhance the lives of women, especially those secluded in purdah, who can live a public life (through technologies such as the Internet) while maintaining the physical private space circumscribed by their Islamic religion and family circumstances.[16]

---

[16] In the largely Islamic Northern Nigeria, not all women are in purdah – secluded from the public sphere. In families where the religion is interpreted more liberally, women are allowed to work outside the home.

> *I always make a point that we are not saying you have to go out and do it, but to say this is another opportunity that is available and it seems women are not making the best of that opportunity. ... Women have more stringent constraints on their time. We think that they have more difficulties and they need to have flexible working hours. ICT presents that opportunity so that if they cannot move because may be they have growing children, this is something they can use if they are working at home. Also, if it's brought into the home, the younger people will adapt to it more easily and the society can be impacted on a higher degree if the women are involved. You know, if you look at it – causes that have been embraced by women get carried along a lot, for instance, religion. There's more impact when women are involved. So we think that women can be the catalysts because they are at home and at work and their lives are not so compartmentalized but are permeating in so many areas. So we think they should be encouraged which is not to say the men should fall back and sit down. They are already there and this group (women) is lagging behind and we are addressing that situation. We are not saying that they should leave other things and do ICT. But why not ICT?*

ICTs and socio-economic development: On the connections between ICTs and socio-economic development, Gunda says Nigeria is a difficult country to make generalizations about. She however suggests: "if we are able to get our acts together and all these other social problems that we have so that the development of infrastructure is allowed – things like vandalism do not help – it will improve the services that government can provide." With improvements in these areas, she believes that the telecommunications industry in Nigeria will grow and stimulate the market in other areas. The telecommunication infrastructure, she said, is like an "infrastructure of other infrastructures." For instance, she argues, if one can communicate effectively with other people, one would be well informed enough to eliminate suspicious about other people and their motives.

> *Also a lot of time is spent travelling and getting from one point to another and waiting. I mean, you've been waiting for days just to have this small interview. ... So, a lot of time is lost because people are moving from one place to the other to collect little information or to transfer little information. And this has impact on lives because (there are) so many accidents on the road. So if we have a good telecommunication system, it will help us to become more settled and people will not have to run around all over the place just to see somebody who's sick. So I believe it will impact positively although there are challenges*

> *like you are aware, the Internet comes with its own challenges. For instance, the cultural assault from people ... we cannot always say it's foreign culture because the culture of the Internet is not really the common cultural norms in the places they are coming from. You know, issues such as child pornography and all those things.... We want to be sure that all those challenges are handled properly. That is another thing that will be a challenge that we'll have to address.*

7:3:3 Olatokunbo Oyeleye

Olatokunbo Oyeleye is the founder and manager of the Information Technology Unit of the Nigerian Communications Commission (NCC). She holds a degree in computer science from the University of Lagos.

ICTs and socio-economic development: She argues that the world has "gone beyond countries and continents" and is now "the globe." In the past, she says, Nigeria was fairly insulated from the rest of the world and was thus unaffected by developments elsewhere. But that has changed, she adds, such that the physical barriers have broken down. And now today's Nigerian youths are not just competing with each other, but with their colleagues in the rest of the world. Information and communication technologies can create a level playing field for this competition. Also, with jobs beyond the shores of Nigeria that are available to Nigerians without their need to go outside the country, Nigerians need to be on the cutting edge of the technologies that make all this possible.

> *Back in those years, you graduated from Unilag (University of Lagos) and went to (graduate) school in the US. But let's see what is going on today. Now we have people who graduated from computer science (but) put them behind the PC and they don't even know what to do. We need to begin to re-define the curriculum of schools and relate to what's going on in the world. We are no longer producing graduates for the Nigerian market but for the global market. Now, we also need to meet up with the basic standards of the world, for instance telecommunications – there is a set standard for telecommunications. Wherever you are, you have to meet ITU standard for*

telecommunications. The world standard is what is expected from any country. This is a different era, it's not like the previous era ... ICT has come to stay. A lot of things, telemedicine, biotechnology are ... running on ICTs. Nigerians need to buckle up and begin to see the reality and how we can develop our culture in line with the reality.

I assure you that in the next five years, may be we'll be competing with South Africa. We'll definitely improve. We are not going to be stagnant. I believe that in the next five years ... we may not be exactly where we are supposed to be but we'll not be where we are today and not in the negative side, the positive side. That much I can assure you."

7:3:4 Ibukun Odusote

Ibukun Odusote, head of the information technology project unit of the Federal Ministry of Information and National Orientation, holds degrees in computer science and business administration. Before her appointment to the current position in 1999, she was a computer science lecturer at a computer science department she started at Yaba College of Technology, Lagos (Yabatech). Known as the "Mother of the Internet in Nigeria," Odusote started activities relating to the Internet as far back as 1991.

Internet in Nigeria all started at Ife (Obafemi Awolowo University, Ile Ife) and then Yababtech. Ife was supposed to have taken the lead but somehow I got involved with the project. And in my usual manner, I ran with the vision and did a lot more than Ife guys would imagine. We tried to create a dial-up account using Fidonet at that time. From Fidonet, we went on to UUCP where we had this software from South Africa. From UUCP, we moved on to TCP/IP when we now had full Internet connectivity by dial-up. We were dialling up to a system in Italy and our domain was registered in Italy, through Italy. I was the administrator and the technical contact was in Italy. And then later we started having problems with the connections because of the Italy part of it. Telecommunications from Nigeria to Italy was not as straightforward as to London or the US where we have direct gateways. I don't know how it goes in the telecom world, but I know it has to go from somewhere to somewhere before it gets to Italy and there were a lot of problems with the system. We would wake up early in the morning and go and dial up, download all the mails and send all the mails that people were coming from everywhere to send. A lot of people were excited from all over the world sending and receiving mails from Nigeria. They were saying, "Is this Nigeria?" Some on the Net (Naijanet, an Internet forum of Nigerians abroad) were sending all kinds of mails. It was fun; many congratulatory mails were coming in and people thanking us for the effort and the work that was being done.

First e-mail that I sent went to someone in South Africa. And this is because the person was sitting right beside me in the office when I sent the e-mail to his address (in May 1994) ... This was the first e-mail sent out of Nigeria, from a direct TCP/IP link. Organizations such as Shell, etc. had started earlier using their private networks (Intranet). Mails were circulated in-house and if someone wanted to send mails out to the Internet, this would be done for them (by the systems administrator). The first set of e-mail received came from 20 different places. I remember receiving from the Association of Nigerians Abroad, Naijanet, from a professor in Saudi Arabia and another professor who was on fellowship in the US, and from Nairobi and from a group in Italy. They all came at once and it was real fun reading from all those people. I didn't have an official car but used my personal car to deliver e-mails for people. I would receive, print, put in an envelope and go and deliver to the people that were being sent mail. It was a lot of sacrifice and hard work at the time, but it seems all worth it when one talks about it now.

Then the USIS (United States Information Service) got to know that this project was one. I got a visit from the regional library officer at the time who (wanted to know how to make) more people know about it. That was the beginning of my troubles in bringing other people into the project because they hijacked and turned things around giving the impression that they started all this work. Since then, it's been quite problematic, and so many challenges that I've gone through as a result of that. At a time I decided that I wasn't going to do anything about it and nobody should talk to me about the Internet in Nigeria anymore. I get invited to speak in places and I don't want to once it has to do with the history of the Internet in Nigeria. I say, 'leave me alone and let me just do my work and make progress.'

Now when I see a lot of organizations such as ISPs, I just shake my head and say, 'yes, I paved the way for you people.' It's good that they are making money (and that) they are progressing. What we wanted was that Nigeria should be on the Internet and Nigeria should make progress. And the kind of project I'm doing here too, I know that very soon, other ministries won't have any choice but to do Internet projects in their various ministries. I know they will eventually call on me to do a number of things. I'm always starting things – I start and then move on. I expect that at the end of this, many government organizations will come to ask us how we did because we are going to give a good example for them to follow.

ICTs and socio-economic development: Odusote believes that Nigeria has a lot of resources and ICTs provide the capacity to exploit them. For instance, she says, software development is an area that Nigerians can get into without much capital overhead, but with enormous economic returns.

Mr. President has commissioned a project on Price Intelligence – a database of items that are bought in government. ... Everybody is buying at his or her own price and this creates a lot of excess. The only thing that can help is if the system is computerized so that everyone has access to that database (and knows how much to spend on what products). That way, the government can save a lot of money while the contractors are still making their profits.

In organizations where they have human resources software that manages the people, you don't have ghost workers and people coming to line up to identify themselves. With the software, you can see all the workers, their photos and signatures are there, and you can account for everyone who is on your payroll. If software development is encouraged in Nigeria, we'll be making a lot of money from it.... I believe that IT is going to give Nigeria an edge in a number of ways.

7:3:5 Tajudeen Diekola Oyawoye

Tajudeen Diekola Oyawoye began working in May 2001 as the special assistant to President Obasanjo on information technology. He holds a master's degree in business computing from a British university. He started an IT consultancy firm in 1988 in the northern city of Kano helping businesses to use computers in their work. He later diversified into supply, maintenance, training and assembling of computer-related technologies.

ICTs and socio-economic development: Oyawoye believes that the connections between ICTs and socio-economic development are so obvious that he cannot explain them, admitting that perhaps it is because he is "an IT person." But he argues, just the ability to exchange information, share knowledge and interact with people in distant places is already an index of progress.

You can let people know what's available, set up websites for some of our agricultural produce so that the international community would know what's available here. We also have a great pool of highly trained IT people and there's a great demand for them all *over the world. I used to advocate for them as export – send them out to make the foreign exchange. But now, the business can come to them here and the money they get is spent here in the Nigerian economy.*

7:3:6 Eunice Eigbefoh

Eunice Eigbefoh, a scientific officer on information technology in the Ministry of Science and Technology, holds degrees in geographical information systems. She joined the ministry in September 2000, and as at 2001 had attended an international training seminar on software development in India.

ICT and development: Eigbefoh, like many others, focuses on software development as an area where Nigerians can create a niche for themselves in the global ICT industry. This, she says, will create demand for Nigerian labour and thus generate employment.

If our youths can write software, develop things that we can use in the country, we will be in such high demand, and it will be a source of foreign exchange for the country. Lots of expatriates will come here and want to use our skills and those skills won't be cheap ... If there is a boom in the IT industry here, the economy of the country will be much, much better because things will be better, will move faster ... For one thing, it costs a lot of money to bring foreign experts to do things that we can easily do here. If we minimize all that expense ... If IT is knowledgeably tapped so that it lifts the economy of this country, it can beat oil much more (as a foreign exchange earner). ...

If properly used IT can be a major area of foreign exchange. (Also, it can create) employment – our economy is down because there is so much unemployment. With IT, people will be gainfully employed because it's such a big area and so you can find something to do in IT. If you are not a hardware engineer, you can be developing software and those are basically two aspects of the technology ... IT will reduce the unemployment rate and when once this has been done ... you'll see changes. The rate of crime will go down. It's because people are unemployed that's why they steal. Things are so hard ... IT will raise the morale of this country, when people see that things are not as bad ... A lot of people complain that they don't like doing business in this country because the government is slow, there is a lot of bureaucracy and people expect that before things are done, favours must be exchanged. When you have IT, you don't need that (exchange of favours).

7:3:7 Chris Uwaje

Chris Uwaje, a regular newspaper columnist on information technology in many Nigerian newspapers, is the president of the Information Technology Association of Nigeria (ITAN), an association that raises awareness of ICTs in the country, and currently solicits for computers for donation to secondary schools in some parts of the country. ITAN and Uwaje were key participants in the process leading to the formulation of Nigeria's ICT policy. For his role, Uwaje got an acknowledgement in the policy document. He also runs an "IT start-up company" which "develops knowledge in software and conceives projects." According to him, the company is mostly a "skill-enhancement centre because people need to understand the product. So when we develop products, we now bring people in to enhance their skills of using those products or using existing products."

ICTs and socio-economic development: Uwaje credits the private sector for bringing the issue of information technology and communication technology to the forefront of Nigerian discourse. He says in calling attention to ICTs, the private sector succeeded in making a case for the importance of information, arguing that the propensity of a country's "information cycle" will ultimately determine how it fares in the global market.

> *One must really define what objectives Nigeria wants to realize with IT and CT (computer technology). I think one of the most central objectives is to use the technologies to uplift the standard of living of the people and to create wealth for the people. And the way it can be done is harnessing the potentials of the people using the technology as a tool ... (to) share broad-based knowledge among themselves to be able to create fundamental solutions ... Then it becomes imperative that all Nigerians both here and in the Diaspora must see the digital revolution as a zero-border phenomenon. That you are in America, etc., will be meaningless in the future because indeed what we call virtual reality is that you can create a company on the Internet and nobody knows where you are. So what we are saying is that the future world is zeroing in on the Internet and*

> *Nigeria should take advantage of that. The advantage is that one product sold here can also be sold in over 170 countries of the world at the same time, or more in a multiplier effect. Indeed, Nigeria should look at the environment creating a fundamentally respectable and enabling environment for its people ... within the context of what (the country) will be a 1,000 years from now and building institutions that will outlive anybody in the next 5000 years. ...*

7:3:8 Etim Amana

Etim Amana is a civil and structural engineer who got into the computer business following a search for appropriate software for an analysis in structural engineering while working in England. When he could not find such software, he wrote one for himself. In 1982, he returned to Nigeria to set up an engineering consulting firm with his older brother, Mfon. Today, he is the managing director of the company which has since diversified into the provision of "IT solutions" to companies around the country, as well as being a distributor for Hewlett Packard since 1984. He was also involved in the process of formulating Nigeria's ICT policy.

ICTs and socio-economic development: Amana argues that making a case for the connections between ICTs and development is almost superfluous because "we do ICTs all the time." He says even "for something as simple as making a phone call" is ICT in practice and the benefit of this simple act is only too obvious.

> *As basic as a telephone is, that is a piece of computing equipment. More and more ... without computing, a whole lot of things will not be able to work. Very soon, everything that we do will be dependent on some sort of technology that is IT-related. Just look at the GSM phone, everything we have is running on computers. With the cell phone, you can do your banking; it will be your ID. We walk into a place and where you are knows you because you have your cell phone with you. ... There is no way we can go anywhere without getting into this bandwagon. This is why we say ICT is the future, not just the future for making money, but what we do on a daily basis. It's going to be like a car, you*

get in because you want to move from point A to B. so that's how pervasive ICTs are going to be. Apart from all these, it's exciting. It's going to touch everybody's life. Whether you have a computer or not ... a lot of things will just be there for us to use.

7:3:9 Freeborn Omueze

Freeborn Omueze is the assistant chief administrative officer in the department of planning, research and statistics (DPRS) in the Ministry of Communications. He is also the desk officer responsible for a databank that was being established in the ministry.

ICTs and socio-economic development: Like Amana, Omueze believes the "importance of telecommunications in Nigeria cannot be over-emphasised." An example is the way in which road accidents in the country would be reduced by three quarters if every household had a telephone.

The role of telecom in the development of other sectors of the society cannot be over-emphasised. Today, we have electronic banking, tele shopping, e-commerce – these are products of ICT. You don't necessarily have to travel (abroad) to see this kind of lifestyle. ... You can easily import some foreign breed of animals to develop your livestock sector. ... We all know that developing ICT is developing other sectors of the economy.

7:3:10 Tunde Olaoye

Tunde Olaoye is the assistant director, policy unit, in the Federal Ministry of Education.

ICTs and socio-economic development: Olaoye is one of many who argue that the presence of ICTs in a society is development by itself. For instance:

If you can make a phone call and reach people more rapidly than you could do in the past, that is development by itself. If I don't have to leave my seat to reach out to someone in Lagos or Kano ... that's evidence of development and positive effect for the economy. If you leave your desk from time to time, you lose a lot of manpower, energy and time.

7:3:11 Gabriel Ajayi

Gabriel Ajayi, is a university professor of telecommunications, on secondment as the director-general of National Information Technology Development Agency, the organization responsible for the implementation of the Nigerian policy on ICTs. He was also the chair of the committee that drafted and eventually formulated the policy. He has published widely on the state of telecommunications in the country and represents Nigeria at many ITU conferences and other telecommunications-related activities outside the country.

ICTs and socio-economic development: Ajayi believes that ICTs can solve a lot of problems, particularly in achieving the programs set out by the Obasanjo administration. He however notes that the major constraints to achievement of socio-economic development (through ICTs) are human resources and infrastructure. This is why, he explains, the ICT policy in its first chapter, identifies infrastructure or capacity development as major conditions that will affect the achievement of policy goals.

> *ICT can be used to solve or address a number of programs that Mr. President has. For instance, he is worried about the educational system and IT can be used to revitalize the educational system. And of course, the educational system cannot really exist these days without being information-based ... having Internet connectivity and access to the web to enhance long-distance learning. Tele-education (for instance) is not an exaggeration but the infrastructure will first of all be provided.*
>
> *And then, apart from that, collaborative research is also education. In the policy, we have identified that ICT will be used to leverage our development and particular uses in education, job creation, poverty eradication, and global competitiveness. All these are programs of the President and if we have a technology that can assist in that, he will be naturally interested. Apart from that information technology is one of the three technologies driving the global economy. The others are biotechnology and materials science. The President has also rightly declared biotechnology as a national priority. ...*

The interest is growing everyday and is sustainable. The response from the private sector has been overwhelmingly encouraging. ... The international community has always been waiting (Nigeria is the largest black country in the world). So Nigeria is important to the global community and we can't even participate in the global economy if we don't have ICT.

7:3:12 Boye Olusanya

Boye Olusanya is the head of the customer services division of Econet – one of the providers of cellular phone services on the platform of the global system for mobile communications (GSM). Econet, as well as MTN, rolled out the GSM phone services in Nigeria in August 2001. As at November 2002, the two companies were claiming that they had subscribed as many as one million phone lines.

ICTs and socio-economic development: Olusanya argues that the entry of the GSM phone service providers in Nigeria is a major boost for the economy. This is because "one of the biggest tools for any economy to develop is communication."

If you ask most businesses they will tell you that one of the biggest problems and most frustrating is being able to communicate from head office to depot or staff on the road. This is a difficult country where we all get stuck in traffic on our way to meetings and we are not sure who is at the other end. And these meetings are things we can easily sort out on a simple communication channel. And once that exists we start operating maximum businesses in the sense that we can maximize our tools and businesses for use. There's nothing that says industries have to reside in Lagos. There are lots of other places for industries to move to. There are lots of other places for industries that exist now to have contact with certain other places where they are going to get funds, sales and things like that. ... What we are looking at is a situation where we are actually speaking to suppliers in rural locations and say, 'this is my order.' Those kinds of things continually develop an economy. One of the biggest processes in Western economies today is that you can actually sit down in your house and you can practically order anything you want from anywhere. Why, because you pick up the phone and dial the yellow pages and it gives you the number of the goods or services you want to buy and you purchase it online. ... I'm hoping that at least people (Nigerians) will be more aware of the desire of the (GSM) operators to improve themselves and the economy, to make Nigeria better.

7:4 Common themes

The themes that emerge from the above narratives are not that different from those identified by Mosco (1998) as the content of the mythologies surrounding computer communication and the Information Superhighway. The difference however is that while in the West (or post-industrial societies), the focus is on needs further up the pyramid of Maslow's hierarchy of needs – such as community and popular empowerment. In the Nigerian version of the myths on ICTs, the stress is on basic needs such as employment, health and education, which speak to the "unmet needs and aspirations" of Nigerians.[17]

Research interviewees said acquisition of ICTs in Nigeria would reduce the incidence of road accidents, generate employment, earn foreign exchange through the exportation of surplus goods, services and knowledge and, raise the standard of education through distance learning and collaborative research. According to them, ICTs would also improve healthcare delivery (for instance, when telemedicine becomes the norm), increase foreign direct investment in the country as foreign businesses would be attracted to the country when ICTs help in creating abundant skilled labour, and reduce bureaucracy and corruption. Three of these themes, employment, reduction in bureaucracy and corruption, and reduction in the need to travel, are discussed below.

---

[17] The hierarchy of human needs identified by Abraham Maslow (1970) is (in ascending order): physiological, safety, love, esteem and self-actualization.

Employment: Up until the 1970s, graduation from a university or college in Nigeria meant immediate employment. Even when the National Youth Service Scheme (NYSC) was instituted in 1973, graduates had no doubt that a job, official car and government assigned residential quarters would be waiting for them at the end of the service year.[18] In many cases, the primary employer during the service year would offer higher salary and attractive non-salaried benefits to entice the graduate to remain with the organization. In those days, acquisition of higher education automatically translated into access to wealth and higher social status. However, the glorious years were to end with the oil bust of the 1980s when graduate unemployment reached an all time high during the Shagari Administration (1979-1983).

Various administrations since then have tried to deal with the high unemployment rate in the country. The government of Babangida (1985-1993) as part of the Fifth National Development Plan created a National Directorate of Employment (NDE), aimed at providing jobs to graduates through public works programs (such as construction, garbage disposal and general environmental sanitation duties). The agency was mandated to employ at least 200 graduates in every state while also teaching skills toward self-employment. It was common during the NDE years to find college graduates doing jobs that were unthinkable only a decade earlier – jobs that would have been considered beneath secondary school graduates (School Certificate holders). The Nigerian degree holder had fallen from the status of just a decade earlier, but employees of NDE were told that a job – any job – was better than none. And this attitude led to the rise of the "dignity in labour" slogan that Nigerians adopted, not to reflect the value of work, but pride in garbage collection (while stashing away a university degree in the back pocket).

---

[18] The NYSC scheme is mandatory for Nigerians, aged 30 and under, to serve the country for one year at the end of a four-year post-secondary education. NYSC members are normally posted to places other than their states of origin and location of their post-secondary institution. They work in government or private-sector organizations, generally in the areas of their study. The federal government pays some stipends to NYSC members during the service year, though their primary employers must make arrangement for their accommodation and in some cases, pay them some transportation allowance.

Reduction in unemployment rates was a vital issue on the campaign platform of General Olusegun Obasanjo who was inaugurated as Nigeria's 10th head of state in May 1999. But the unemployed youth got restless when a year later, they had not yet seen the "dividends of democracy."[19] In October 2000, "hundreds of unemployed graduates mounted a demonstration in front of the presidential offices in Abuja to demand that the government provided them with jobs."[20] This prompted the Obasanjo Administration to frontally tackle graduate unemployment. Several state governments hired hundreds of graduates in the civil service into various cadres in the civil service. (The Akwa Ibom state government employed 2000.[21]) This was however just a drop in the bucket with graduate unemployment rate for 2000 estimated at 17-25%.

---

[19] After years of military dictatorship in Nigeria, the new administration had promised that Nigerians would see the "dividends of democracy" in many aspects of life – such as reduction in inflation and unemployment rates. This then became a slogan for everything that happened (positive or negative) during the Obasanjo Administration. Even the spate of violent religious conflicts in Northern Nigeria was sarcastically referred to as the "dividends of democracy" by government critics.

[20] United Nations Economic Commission on Africa, "Nigeria – Untapped Potential," in *Economic Report on Africa 2002: Tracking Performance and Progress.* p.174

[21] Incidentally, this state government two years later was having difficulties paying staff salaries. For instance, as at the second week of November 2002, civil servants in the state were yet to receive their September pay cheques.

Unemployment continues to present a serious challenge in Nigeria, not helped by the asymmetrical ratio of school enrolment to the capacity of the economy to absorb the products. While as many as three million Nigerians graduate from secondary and tertiary institutions annually, "it is estimated that the economy can absorb only around 10% of these graduates annually."[22] There are currently about 15 million (three times the population of Finland) unemployed and underemployed youth in the country. In its current national development plan, the Obasanjo Administration "envisages growth in employment of 1.8 million jobs – 600,000 a year – but that number is still a mere 20% of what is needed just to hold unemployment and underemployment constant among the educated youth."[23] Meanwhile, the country's "education factory" continues to produce labour – often with unemployable skills. There are 35,000 primary schools, 6,400 secondary schools, 62 colleges of education, 47 polytechnics and 42 universities with a combined enrolment of 45% of the population, representing 400% increase between 1991 and 1998. "But much of (this) growth has occurred in areas with little labour market demand, while enrolment in such critical areas as medicine and administration has grown relatively slowly. For example, between 1987 and 1997 the share of science students among university graduates dropped from 29.4% to 24.5%."[24]

While they might not have been aware of the official statistics, as many as 80.1 % of the 306 youth corps members who responded to this research questionnaire (see Chapter 6) identified unemployment as the most important socio-economic concern in Nigeria. It was therefore not surprising that both questionnaire respondents and interviewees would look to ICTs to generate employment in the country through the creation of new jobs. Also, with the requirement for basic computer literacy as a prerequisite for employment, many see the acquisition of ICT skills as offering a competitive advantage in the labour market. And at the policy level, it is considered that investing in the ICT sector would increase production (which requires employment of skilled personnel) and thus services and goods. A major assumption about the capacities of ICTs to create employment is the focus on its low-capital intensiveness. As one interviewee put it, ICT requires "brain power" with which Nigerians are abundantly endowed. A major area in the manifestation of brainpower is software production. Many interviewees in both the public and private sectors stressed this area, citing India as a developing country that has created a niche for itself in the production and export of software. Already, there is an active software development industry in Nigeria (Soriyan, 2000).

---

[22] United Nations Economic Commission on Africa, "Nigeria – Untapped Potential," in *Economic Report on Africa 2002: Tracking Performance and Progress.* P.174
[23] Ibid.
[24] Ibid.

Furthermore, as in many developed countries, one of the fastest growing economic sectors in Nigeria is the ICT industry and it is not a stretch to conceive of the array of job potentials in this sector. For instance, there is a booming "cloning industry" in computers and peripherals, and there even exists a "computer village" in Lagos. Besides these jobs in actual production, many Nigerians and groups are giving out business cards that offer "IT solutions" in all sorts of areas. These are either one-person companies or small-scale enterprises with less than ten staff. Most "IT solutions" consist of soliciting for contracts to supply computers and peripherals to businesses, especially government offices where the opportunities exist for inflation of the actual values of the procured products and therefore wide profit margins. For instance, in the Ministry of Communications, a committee met for several weeks to consider the IT needs of the ministry. At the end of its sessions, the committee made recommendations, including the hiring of a consultant to assist the ministry in the acquisition of new, and upgrading of existing, computers. Since this is a common phenomenon in Nigeria, the committee did not consider it redundant that it needed an external consultant to implement its recommendations when its supply department could go out into the market and acquire the necessary items.

In other government departments with competent IT units, it was found that purchase and installation of the various ICTs were contracted out – often, at inflated costs – to private-sector actors. In the Federal Ministry of Information, head of the IT unit, Ibukun Odusote, spoke of a price-index database that would guide contractors on how much the government was willing to pay for ICTs supplied to the various government establishments. Again, because it is the norm in Nigeria, Odusote missed the irony: it would be more cost-effective for the purchasing and supply departments of the ministries to directly purchase the items – at market price – than go through contractors who would ensure that they profited from an exercise that did not involve any productive (as in manufacturing) effort on their part.

The acquisition of ICTs is also providing employment for Nigerians – especially the youth – through the ownership of cyber cafés – fee-based places where anyone can access the Internet as well as make Internet phone calls. As one cyber café owner in Calabar put it: "This is a money earner!" That is, when obstacles such as poor electricity supply and the connectivity problems of the national telecommunications carrier are overcome. In the big cities such as Lagos, Abuja and Port Harcourt, cyber café owners have found ways of coping with these problems (discussed in the next chapter) through the provision of independent sources of power supply and wireless connections to the Internet. They are thus able to maximize their profits through economies of scale – networking several computers that are fed from a single connection point. This means that upward of 100 people can use the network simultaneously but this volume costs the same as if one person was accessing the system. And at five Naira to ₦20 per minute of online time, many cyber café owners in the three cities of research are indeed the immediate beneficiaries of the ICT-for-development discourse.

Another fast-growing business offering employment in the IT sector in Nigeria is computer training. "Computer schools" have mushroomed in many cities in the country. In the big cities, it has become fashionable for parents to send their children to computer schools. This form of activity has helped keep busy the thousands of mostly university students who spend more time out of school than in.[25] There are however emerging concerns about the quality of this computer education. In many computer "schools" the ratio of students to computer can be as high as 30:1. This is even more so in a situation where many computer-science departments in universities do not have computers and students have graduated in this field without any practical knowledge of computer applications.[26] Many computer science students in the universities therefore throng the "computer schools" for a chance to actually use a computer.

There is another level of computer training for top executives and managers. Tajudeen Diekola Oyawoye (the special assistant on IT to President Obasanjo) ran one such outfit in Kano before his appointment. He said the project was based on the principle that a lot of top managers do not feel comfortable attending regular computer training programs in where their employees and subordinates may also be students. To make them comfortable, Oyawoye provided these individuals with one-on-one training – at a very high price. Titi Omo-Ettu's Lagos-based Executive Cyberschuul runs along a similar principle. He said, "as leaders, senior people need to have access to these things." Before Cyberschuul started in January 2001, Omo-Ettu was running the training program out of hotel resorts, and by December 2001 had trained up to 800 executives.

---

[25] The Nigerian university system has in the last 15 years been fraught with strikes – either by academic or non-academic staff – or at other times, the universities have been shut down because of activities of students – cults or strikes. The result is that college students routinely spend more than the normal four years in school.

[26] While waiting to interview Leo Stan-Ekeh, the CEO of Zinox Technologies in Lagos, I observed preliminary job interviews by him of some job applicants with "excellent" degrees and post-graduate certificates/diplomas in computer science or other related fields who did not know what "Microsoft Office" referred to.

The areas discussed here are not exhaustive, but they support current expectations about how ICTs will generate employment and therefore wealth among Nigerians. Indeed this is one area that has actually manifested in Nigeria, though the beneficiaries are still in the minority: owners of "IT solutions" businesses, cyber cafés and computer schools. The policy on IT has mandated the Nigerian Information Technology Development Agency (NITDA) to train 500,000 IT-skilled Nigerians by 2005, as well as re-define the school curriculum to emphasise the acquisition of technological skills. Most of the recipients of this training will be fresh college graduates – the demographic mostly affected by the high levels of unemployment in the country.

Undoubtedly, ICTs can generate employment, and we have seen the instances where they currently do so in Nigeria. However, left out of the utopian assumptions about the capacities of ICTs to create jobs is the other side of the story: ICTs actually eliminate jobs. First, ICTs are not labour-intensive and therefore cannot offer a sustainable platform for creation of jobs in a country as highly populated as Nigeria. Indeed, the country's competitive edge in the global economy lies in its human resources. In an age of globalization and footloose corporations seeking places with relatively cheaper labour force (and lower environmental and labour standards), it would be better to stress and "sell" a country's human resources to the outside world rather than focus so much on the importation of technologies that would require less labour input. Second, and related to the first point, ICTs, as presently developed in Nigeria, provide employment opportunities for just a fraction of the population – mostly young, male and college-educated Nigerians. Where female and non-college educated male find jobs are the "ghettos" of the ICT industry – working as "computer operators," and clerks in cyber cafés, secretaries and computer repairmen.

Third, the strength that lies in ICTs – speed and efficiency – can also be a weakness when it comes to creation of jobs. While new jobs may very well be created, fewer people are required for certain kinds of jobs, especially office jobs where now, with computers, one person could perform jobs that were hitherto done by many. For instance, in the newspaper industry, the change from type-set to desk-top publishing has eliminated the positions of "copy boy," typist, sub-editor, graphic artist and compugrapher. It is now common in many newsrooms in Lagos for a reporter to return from his/her assignment, type her/his story on the computer and send it online to the line editor, who in many cases, who edits it online, assigns the page, and sends it also online to the copy editor, who now doubles as the sub-editor and graphic artist. In other cases, similar transformation from manual operations to automation has led to the loss of jobs, especially for older workers who may not be able to retrain on new skills required for jobs. Women particularly suffer when automation eliminates jobs that were formally performed by them. Indeed, this is the history of many technologies, and in the age of the information revolution, it is not going to be any different.

While people can very well retrain (and most do) for ICT-intensive jobs to become competitive in the labour market, the point is again stressed that ICTs – even the production of the technologies – are not labour-intensive. The technologies inherently reduce the number of people who can draw their sustenance from the industry. It is therefore important that the development of "antiquated" industrial-age industries is not neglected, especially in a country such as Nigeria where one might venture to argue that it is yet to arrive in the industrial age. Of course, the myths woven around ICTs and their capacities also tell about how the technologies can help Nigeria to scale over the industrial age and land in the information society (the leapfrogging logic). However, as Nosa Omoigui argues, "ages beget ages." As such, it will be impossible for Nigeria to leapfrog from virtually pre-industrialism to the information society without developing industrial-age infrastructures.

> The Information Age could not exist without the benefits provided by the Industrial Age. In the United States, the Internet is an application that sits on a robust platform: the country's power and telecommunications infrastructure. The U.S. made these strategic investments long before anyone even conceived of the Internet or the Information Superhighway. Such a sense of long-term strategic planning, it appears, has eluded Nigeria's policy-makers for too long.[27]

Reduction in bureaucracy and corruption: Respondents of the research questionnaire did not believe that ICTs could reduce corruption – one of the three top socio-economic concerns in Nigeria. However, those who participated in the personal interviews portion of the research felt that utilization of ICTs would reduce bureaucracy and make it more transparent, thus eliminating the need to "exchange favours." For instance, one argued, if government information is available on relevant websites, one would not have to bribe public officials for them. In many cases, standard forms (obtainable free of charge) are sold by office clerks and secretaries. It is common for people seeking services in government establishments to pay for the stationery (such as file folders, pens and papers) used in processing the required transaction. But a "paperless office," some have argued, would eliminate this.

---

[27] Omoigui, Nosa, "The Information Age as a Key to Nigeria's Renaissance: Opportunities, Risks and Geopolitical Implications," Available at: http://www.nigerianscholars.africanqueen.com/opinion/NosaTech.htm

Nigeria has constantly ranked high on the Transparency International annual index of corrupt countries. As a founding director of the organization, President Obasanjo had determined to curb corruption and other hidden costs of doing business in the country. Shortly after his inauguration, an anti-corruption motion was presented to the National Assembly. After a series of debates and delays, the motion was passed into a bill aimed at prohibiting and prescribing "punishment for corrupt practices and other related offences."[28] The bill led to the establishment of the Anti-Corrupt Practices Commission, mandated to investigate and prosecute offenders. Two years later, the commission had not prosecuted anybody even as corruption remained a serious problem in the country. The UN ECA report on Nigeria points to two reasons for the commission's failure: the electioneering system and the ethnic factor, both of which are at the "core of political patronage and economic mismanagement" in the country.[29]

---

[28] Federal Government of Nigeria, "The Corrupt Practices and Other Related Offences Act, 2000." Available at http://www.nopa.net/Useful_Information/frame1.html

Even President Obasanjo admitted in his first anniversary speech to the nation that the delay in which the National Assembly handled the debates over the bill did not reflect the urgency of the crusade against corruption with which his administration came into office. But he assured Nigerians that while waiting for the bill to be passed, other measures were being taken to fight corruption and had succeeded in recovering most of the money stolen from the public coffers by past government officials.

> A few thieves have been caught and we have evidence that this is already having deterrent effect. Our relentless pursuit of looters has so far yielded around 100 billion Naira of recovered cash and assets. And as I speak another two billion US dollars are frozen in foreign accounts, with possibility of recovery and repatriation. We are doing what we need to do at home so that the countries abroad can act to return the money which is ours back to us.[30]

While the Obasanjo Administration made enormous political capital in its early days by announcing the recovery of huge sums of money illegally acquired by past high-level officials, corruption had not been stamped out in his own administration. As in the past, political patronage is rampant and access to government (jobs, contracts, etc.) depends more on close or distant connections with those in the corridors of power – or what in Nigerianspeak is referred to as *Man-know-man* – than on merit. ICT enthusiasts believe that this problem will be reduced, if not solved. The technologies will extensively shorten the length of red tape and leapfrog several layers of bureaucracy thereby reduce the opportunities for corruption. As one interviewee said, if there is a software that automates an organization's personnel records, the incidence of "ghost workers" would be eliminated because the software would have a database of actual employees – names and photos – in the department.

---

[29] United Nations Economic Commission on Africa, "Nigeria – Untapped Potential," in *Economic Report on Africa 2002: Tracking Performance and Progress.* p.171-172

[30] President Olusegun Obasanjo, "Nigeria on the Agenda: The Journey so Far," Abuja 2000. Available at http://www.nopa.net/Useful_Information/frame3.html

The assumptions about how ICTs will reduce bureaucracy and corruption in Nigeria through transparency and availability of information are yet to be tested. What is evident so far is that many government websites, as currently constructed, do not have much information and electronic requests often go un-replied. This means that people will still have to deal directly with government workers, many of whom will demand for "tips" before certain services are provided. It is common for personnel or contract files to "disappear" and miraculously "appear" after money or other favours have been offered to civil servants. In a Nigerian ministry, even a messenger – the lowest level of office staff – can stand between someone seeking access to a government service (or product such as a document) and his or her mission. ICTs will not miraculously solve this problem, certainly not when those at the centre of policy on ICTs and their offices are sloganeering about ICTs but operating with a pre-industrial age mentality in terms of openness and transparency. Besides, human beings can always find ways of making ICTs oil the machinery of corruption and bureaucracy in ways that result in multiple and increased levels of these problems. Already, "IT staff" in many government offices are making money on the sly from their colleagues or the public to have their e-mail messages sent, even when such services are either provided free of charge or not available to the general public.

As well, anecdotal evidence indicates that providers of "IT solutions" to government offices have frequently offered bribes of laptops to officials to ensure that they are awarded the contracts to supply ICTs to their departments. During one of the interviews, one head of IT department in a government ministry in Abuja spoke about government and private sector collaboration. An example of such collaboration was the company that did the re-cabling of the ministry at no cost. The interviewee said matter-of-factly: "When the time came to award the contract, it was only natural that we would give it to this company. This is why we continue to encourage other companies to collaborate with us." When the two companies offering cellular phone service on the GSM technology started operations in August 2001, they gave out free cell phones and access to journalists covering the IT beat to ensure "fair publicity." It was also common for suppliers of ICTs (such as computers and its peripherals) to give these out – either free or at extremely reduced prices – to journalists covering the sector. Thus, company press releases would be presented as "scoops" or "breaking stories" with by-lines of reporters many of who did not bother to do any rewriting of the releases.[31]

Reduction in road accidents: Road accidents (resulting from generally bad roads, badly maintained vehicles and reckless driving) have been a concern to many Nigerians, especially those in the urban areas. With the acquisition of ICTs, many believe that there will be less imperative to travel and this will lead to a reduction in road accidents. In Lagos, the "fear of the road" is also compounded by the city-state's infamous traffic congestion (known locally as *go-slow*) resulting in people spending upwards of four hours on the road just to make a 30-minute trip. The argument that people still have reasons to travel even in Manhattan, New York, where there are more telephones than in all of sub-Saharan Africa is always countered with: "it could have been worse if the people of Manhattan didn't have as many telephones as they do."

---

[31] This was obvious when different newspapers carried the same "scoop," often resembling each other word for word.

For a society that prioritizes community and personal relationships, many Nigerian IT enthusiasts seem to overestimate the abilities of ICTs to subsume the importance of real (as against virtual) communities. For instance, in many big cities, such as Lagos, ethnic associations (also known as town unions) meet regularly as members try to sustain their primordial ties and cultures as well as raise funds for development projects back in their hometowns and villages. It is unlikely that the telephone and Internet (even if they were universally accessible) would replace the face-to-face interactions that these town meetings and other community-based organizations engender. In the West, the shrinking of real communities to the rise of virtual communities continues to be a cause for concern. While global linkages through the world of virtual reality have positive elements – such as empowering people around the worlds through the various grassroots action networks – there is fear that it may soon be the case that people are more connected and care more about people in the other part of the world than with those in their local neighbourhood. Nigerian communities have something that many in the West seem to have lost – the real connections with their people around them – but they want something that others now reject. It might be more sustainable to repair and construct better roads, enforce traffic regulations and make the roads less dangerous for people rather than make them believe that ICTs hold all the answers.

7:5 Conclusion

A major objective of this dissertation is to make the connections between the ICT-for-development discourse with practice by showing the process through which the technologies can lead to socio-economic development in countries such as Nigeria. The personal interviews portion of the research gave the opportunity to some key actors in Nigeria's ICT industry to make these connections. These individuals were chosen particularly because they are actively engaged in policymaking and ICT practice in the country and their voices are therefore critical to the development of the technologies and the direction that they will ultimately take.

It is tempting to dismiss the visions of the capacities of ICTs as expressed by ICT optimists in Nigeria as the myths and techno-utopianism that they are. However, one acknowledges that these myths are woven by people whose actions can transform them into realities. As in the case of the folktales of a previous era, while they were based on myths and legends, they did guide action. For instance, adult experiences have shown that the story of Arit-Eno did not happen because the Land of Ghosts does not exist. Yet even the cynical grown-up admits that the values signified in those tales by moonlight became part of the social norm and informed behaviour. Similarly, the myths and euphoric declarations about the wonders of ICTs can become real if they are acted on.

In many ways, the narratives of ICTs and development resonate with the fairy tales of the past – of the days before the television set (where they are available) took over the story-telling art of the elders who sat under the moonlight to regale the younger generations with stories mainly aimed at providing moral guidance. Today's fairy tales – as told in numerous press conferences and transmitted through the media of communication – centre on the transforming capacities of ICTs. In Nigeria today, the defining technology – the "thing" that will catapult the country from economic doom to boom is the new ICTs. And many stakeholders are literally falling over themselves to make their voices heard in the din about the wonders of ICTs. Specifically, the people interviewed during this research express the hope that ICTs will contribute to the Nigerian economy in three major ways: generate employment, reduce corruption and bureaucracy and reduce the rate of road accidents. But as I have already stated, myths are self-fulfilling and perhaps as stakeholders continue to weave the tale about the potential of ICTs, they will be acted on in ways that bring them to reality. The important question though is what this reality will consist of. At the moment, many Nigerians engaged in the ICT discourse have utopian and fairy-tale like views about the capacities of these technologies. They believe that the technologies will achieve feats in the immediate future that are still being fantasized about in the West.

The experiences in the West so far already indicate that, like the Trojan horse, these technologies will bring with them so much that is damaging. For instance, Johnson (1995) paints some worst-case scenarios about the Information Highway to "provide balance" as the "current discourse (is) too heavily based on hyperbole and wishful thinking. … While an Information Highway designed to improve the quality of life rather than to create captive markets for corporations might be possible and beneficial, I fear that that is becoming increasingly unlikely."[32] The Nigerian narratives extol the potential for information that the new technologies have, but in the West, there has been a concern about information overload since the mid-1990s, a situation that has increasingly gotten worse now in the second year of the 21st century. For instance, as many Nigerians subscribed to Yahoo! and Hotmail accounts are already experiencing, the phenomenon of junk e-mail has become a major problem. As complained by some in Nigeria, they log into their "free" web-based accounts only to be confronted with an avalanche of junk e-mail resulting in their spending their time and money just to delete. Sometimes in the end, there is no personal mail for them. Hotmail offers the option of blocking junk mail – except its own and those of its affiliates. The technology for accessing e-mail lists is so advanced that even academic and government institutions are not immune from the problem. There is also the problem of "pop-up windows" which, as the name implies, pop up when one is connected to the Internet, even when no online activity occurs.[33] These windows are websites pushing one to places one did not want to go to. Some of the pop-up windows are designed such that it is difficult to close them. Rather, they remain open for several minutes to give one time to absorb the content before the "close" option (indicated by an X at the corner of the window in Microsoft operating systems) appears. In other cases, as one closes one window, another pops up.[34]

---

[32] Johnson, Jeff, "The Information Highway from Hell: A Worst-Case Scenario," an article based on a talk given at the Association for Computing Machinery's 1995 Conference on Computer-Human Interaction. Available at: http://www.cpsr.org/cpsr/nii/hell.html

Useful information is not as easily available as ICT utopians in Nigeria would like to believe. Several websites charge access fees for their information, and in places where the information is "free," visitors can only access it after registering. That is, after providing information about themselves, information that is then used to mark users and make them "captive targets" of companies with products and services to sell. In the end, as Johnson argues, the benefits of the information superhighway will only accrue to a few Fortune 500 who will not "care about the *general* well-being or the summation of all generated wealth … but their own well-being and wealth."[35] In Nigeria, today's ICT mythmakers will be the only ones well positioned to exploit the technologies for narrow interests while the majority of the population continue to yearn for basic needs. Overall, then, how ICT myths and visions are translated into reality will largely depend on the manner in which the state – along with the other actors – deals with certain constraints that are likely to intervene in the actualization of ICT-centred socio-economic goals. These constraints – or potholes on the road to the information society – are discussed in the next chapter.

---

[33] This happens mostly when a cable modem is permanently connected to the computer such that there is instant access upon start up. This then opens the door, as it were, for all kinds of unsolicited materials to pop up on the computer screen.
[34] Oftentimes, I've had to re-start the computer just to be able to get the pop up windows to go away. The pornographic sites and those offering pills for penile and breast enlargements are the most difficult to close because each window one successfully closes brings up another.
[35] Johnson, Jeff, "The Information Highway from Hell: A Worst-Case Scenario," an article based on a talk given at the Association for Computing Machinery's 1995 Conference on Computer-Human Interaction. Available at: http://www.cpsr.org/cpsr/nii/hell.html

References

Balsamo, Anne, "Myths of Information: The Cultural Impact of New Information Technologies," *Technology Analysis and Strategic Management,* Volume 8, Number 3, 1996

Barnard, F. M., *G. Herder on Social and Political Culture* (Cambridge at the University Press, 1967)

Berlin, Isaiah, *Vico and Herder: Two studies in the History of Ideas* (London: The Hogarth Press. 1976)

Cassirer, Ernst, *Language and Myth,* translated by Suzanne K. Langer (New York: Dover Publications Inc. 1946)

Federal Government of Nigeria, "The Corrupt Practices and Other Related Offences Act, 2000." Available at http://www.nopa.net/Useful_Information/frame1.html

Howkins, John and Robert Valantin (eds.), *Development and the Information Age: Four Global Scenarios for the Future of Information and Communication Technology. (*Ottawa, Canada: IDRC/UNCSTD, 1997)

Johnson, Jeff, "The Information Highway from Hell: A Worst-Case Scenario," an article based on a talk given at the Association for Computing Machinery's 1995 Conference on Computer-Human Interaction. Available at: http://www.cpsr.org/cpsr/nii/hell.html

Maslow, Abraham, *Motivation and Personality,* Second Edition (Harper and Row, 1970)

Mosco, Vincent, "Myth-ing links: Power and community on the information highway," *Information Society,* Jan-Mar98, Vol. 14 Issue 1, p57, 6p. Retrieved from Academic Search Elite (EBSCOhost Item 706465)

— "Cyber-Monopoly: A Web of Techno-Myths," *Science as Culture*, Volume 8, Number 1, 1999

Mueller, John, *Retreat from Doomsday: The Obsolescence of Major War* (New York, New York: Basic Books, 1989)

Omoigui, Nosa, "The Information Age as a Key to Nigeria's Renaissance: Opportunities, Risks and Geopolitical Implications," Available at: http://www.nigerianscholars.africanqueen.com/opinion/NosaTech.htm

Peppard, Lloyd, "Information Technology and Society: Issues of Control and Choice," 1993. Available at http://post.queensu.ca/~peppardl/infotech.htm , accessed Oct. 30, 2000

President Olusegun Obasanjo, "Nigeria on the Agenda: The Journey so Far," Abuja 2000. Available at http://www.nopa.net/Useful_Information/frame3.html

Soriyan, H. A. "Information systems development in Nigerian software companies: empirical findings and methodological issues" in IFIP WG 9.4, *Conference Proceedings.* Conference 2000: Information Flows, Local Improvisations and Work Practices, Cape Town, South Africa, May24-26, 2000.

United Nations Economic Commission on Africa, "Nigeria – Untapped Potential," in *Economic Report on Africa 2002: Tracking Performance and Progress*

Wendt, Alexander, "Anarchy is What States Make of it: The Social Construction of Power Politics" in Der Derian, James, ed., *International Theory: Critical Investigations.* (New York: New York University Press, 1995)

References on the WWW

Acacia Initiative of the Canadian International Development and Research Centre: http://www.idrc.ca/acacia/acacia_e.htm

New Partnership for African Development (NEPAD): http://www.nepad.org

Chapter 8

Potholes on the information superhighway … and detours

8:1 Introduction

Poor state of roads is a common feature on the Nigerian landscape. This is especially so in the southern parts of the country where the heavy rainfall combines with awkward road networking, poor construction, ill-maintained vehicles and reckless driving to turn the roads into what Nigerians refer to as death traps. Besides the physical state of the roads, regular checkpoints and blocks by all sorts of armed personnel (soldiers, police and armed robbers) also characterize the roads. These problems make some stretches of roads, especially the 1,000 odd kilometres between Lagos and Calabar (and through many eastern cities and towns) particularly dangerous. Those who travel these roads know they are risking death by either road accidents or "accidental" or deliberate shooting by any of the groups of armed personnel at the numerous blocks along the road.

One of the perceived benefits of information and communication technologies (ICTs), as articulated by both participants in the questionnaire portion of this research (Chapter 6) and the personal interviews (Chapter 7), is the potential that they will reduce the need to travel and therefore road accidents. That is, the acquisition of and access to technologies such as the telephone by a greater number of people in the country will facilitate easy communication such that one does not have to physically travel to places for routine tasks that could have been accomplished over the phone. Besides voice communication, documents can also be easily transmitted (either through the facsimile machine or as e-mail attachments) without having to physically travel to submit them. Many Nigerians therefore expect that ICTs will open up a (virtual) highway alternative to the roads in the country. Unlike the physical road, the virtual road (usually referred to as the information superhighway) is expected to lead directly to the global information society, and along the way, open up access to immeasurable amount of data, information and knowledge.

Roadside shops, hawkers and service providers such as auto mechanics litter Nigerian roads such that people – especially those travelling over long distances – can shop for groceries and even home furniture on their journey from one point to the other. Similarly, on the virtual road, there are stores and shops where one can sell and buy all kinds of goods and services. The information superhighway is also a huge library, a university, a playground, a community hall and other imagined places. And unlike the physical road, one does not need to leave one's home for this world of endless opportunities to open up for those with access. All that Nigerians need to do is to acquire the technologies as quickly and as much as possible in order to be part of the global information (or network) society. These are the contents of the euphoric dreams, myths and narratives about ICTs and their capacities to lift Nigeria from socio-economic obscurity to prominence – or in the words of the policy on ICTs, to make the country "globally competitive." The reality however is that just as the Nigerian road is filled with potholes and checkpoints, so is the virtual highway – at least the Nigerian access route to the information superhighway. These hurdles question the possibility that Nigeria's journey on the information superhighway will be smooth and fast (thus enabling leapfrogging from the country's peripheral capitalist economy to post-industrialization).

In Chapter 1, I tentatively identified some of the obstacles on the path of Nigeria's journey to the information society. These, in varying degrees of significance, are likely to determine the country's success in achieving its goals of harnessing ICTs for socio-economic growth and the desire of policymakers and other stakeholders to make Nigeria "globally competitive." The obstacles include the institutional and cultural frameworks, state of basic infrastructure such as the telephone and electricity, levels of poverty and illiteracy and ethnicity. They hindered earlier strategies of development in terms of negatively intervening expected outcome. For example, as argued by Yesufu (1996), certain cultural practices in the country support consumption and waste rather than savings and investment.[1] And if this continues into the ICT-for-development age, one envisages a Nigerian society that will be heavily dependent on importation of ICT products and peripherals even as the illusion persists that high levels of usage would create economic development. This conceals the fact that an economic development program that is dependent on external markets is not sustainable. Another condition of the Nigerian society is ethnicity and it has always posed a major problem and remains so in the country of about 250 linguistic and ethnic groups struggling to occupy a geographical space the size of British Columbia. While the multiplicity of ethnic groups is not a problem by itself, politicians (both of the civilian and military genres) have always manipulated it to achieve parochial (and frequently divisive) interests. The Civil War of 1967-1970, which truncated the first post-independence national development plan, was mostly generated by ethnic conflicts among some junior officers in the Nigerian army.

---

[1] There is more of this discussion in Chapter 3.

In many ways, the factors identified as crucial to the successful adoption of ICTs for socio-economic development are among the problems that these technologies are expected to solve in the country. For instance, the policy on ICT clearly states that the technologies will be used for education and poverty alleviation. And yet the present levels of education and poverty will affect the extent to which the technologies can achieve policy objectives. It is also interesting to note that the problems that ICTs are expected to solve were the same that earlier strategies of development (as contained in the different national development plans) set out to solve. It appears therefore that while there is much motion in Nigeria's efforts to achieve socio-economic development, there is little movement. These factors will be significant in the current efforts at generating economic growth in Nigeria in the "information age" but this study suggests that some of them will be more so than others. For instance, while the development and diffusion of ICTs will greatly depend on the state of existing infrastructure, factors such as ethnicity would have only marginal effect on the process. Nevertheless, Nigeria's geopolitical order will undoubtedly be reconstituted. As Nosa Omoigui argues, the pervasiveness of ICTs and their usage as tools for wealth creation will de-emphasise the material base of the Nigerian economy such that people in certain regions (such as the oil producing states in the south) will not have any leverage, and may no longer be able to claim certain privileges) over people from regions with few material resources.[2] The ICT "revolution" is expected to shift the locus of economy from minerals (atoms and ions) to information (digits).

In this chapter, I examine the factors that are expected to mediate the successful harnessing of ICTs for socio-economic development in Nigeria and in many countries at the same level of development. I refer to these factors as "potholes" on Nigeria's access route to the information superhighway, and use "detours" to refer to the measures that policymakers and other stakeholders in Nigeria's ICT industry have devised to get around them. The relevant potholes are: the institutional framework, state of the infrastructure, levels of poverty and illiteracy, the cultural framework and ethnicity. Through the discussion of the potholes and detours in Nigeria's journey to the information society, the chapter is expected to achieve two objectives, both of which tie back to the overall purpose of this dissertation. First, there is an attempt to respond to one of the secondary research questions concerning the conditions that will facilitate or hinder the diffusion of ICTs for socio-economic growth in Nigeria. Second, the chapter presents a discussion of the prospects that ICTs will succeed where earlier development strategies in Nigeria had failed.

In the first place, the primary research question – the acquisition and utilization of ICTs for socio-economic development in Nigeria – raised several secondary questions. Of relevance to this chapter is the question: Can ICTs help Nigeria to transcend the conditions that have traditionally acted as impediments to previous development efforts? The answer to the question largely depends on an examination of these conditions, which have now become both hindering factors in and goals for the utilization of ICTs as tools for socio-economic development. That is, while the potholes will intervene the outcome of the current strategy of development, it is also expected that these problems can be solved through ICT usage. This presents an interesting scenario where addressing these problems will achieve two things: lead to the successful implementation of ICTs, while solving the problems will be considered an achievement by itself. Conversely, if these conditions continue to hinder efforts at utilizing ICTs for development, then the whole ICT-for-development project collapses while the problems/conditions remain. The question therefore is raised: what should be the starting point? Should these problems be solved first before the deployment of ICTs, or can ICTs be used in ways that successfully tackle them?

---

[2] Omoigui, Nosa, "The Information Age as a Key to Nigeria's Renaissance: Opportunities, Risks and Geopolitical Implications," Available at: http://www.nigerianscholars.africanqueen.com/opinion/NosaTech.htm

This question leads to the second objective of the chapter: an examination of the prospects that ICTs may actually help Nigeria to achieve its development goals either when their pervasiveness becomes an index of development by themselves, or in their capacities to facilitate the achievement of other policy goals in the country. While this research began with an interrogation of the connections between the ICT-for-development discourse and actual development, defined broadly to refer to the satisfaction of the basic needs of the larger majority of the Nigerian people, findings indicate that ICTs are useful tools. But to achieve national economic goals, they must be deployed in conjunction with other strategies of development that are aimed at directly addressing the needs of the people. This chapter explores some of these possibilities.

The general discussion is based on data and information derived from all aspects of the research: responses by questionnaire participants and personal interviews, personal observations (participant and non-participant), opinions/news/features published in the two newspapers used for this research (*The Guardian* and *This Day)* and anecdotal evidence. I adopt a two-part approach in the structural organization of the chapter. The first part addresses the first objective of the chapter and directly answers the secondary research question addressed here. It consists of six major sections with each focusing on the different factors and the measures that have been taken to deal with them. In the second part, I examine the prospects of ICTs for socio-economic development in Nigeria. This part is organized in three sections: one focuses on the prospects of ICTs as ends themselves, and the other on ICTs as tools toward other goals – or means to an end. I summarize the issues raised in the chapter in the concluding section.

8:2:1 Institutional framework

Van de Ven has argued that "innovations not only adapt to existing organizational and industrial arrangements, but they also transform the structure and practice of these environments." (Cited in Montealegre, 1999[3]) For this transformation to occur, there has to be an appropriate framework on which the innovations must build. Until 2000, when the National Telecommunications Policy (NTP) was released, there was no policy – or "appropriate framework" – on ICTs in Nigeria. And a year later, following the shortcomings of this policy to comprehensively address the sector, a specific policy on ICTs – the National Policy on Information Technology Policy (NPIT) – was also released.[4] Together, these two policies provided the starting point for the development of ICTs in Nigeria. They also signalled to Nigerians and the world that the government was taking ICTs seriously, especially because of the perceived capacities of the technologies as tools for socio-economic development. In this sense, it would appear that Nigeria now has the appropriate institutional framework for innovation in ICTs – not just in the development of the technologies but also in their usage in the achievement of the country's socio-economic goals. Yet given the nature of the Nigerian society, there are still reasons for concern, as expressed by some stakeholders in Nigeria's ICT industry. Two of these issues, policy implementation and the legal framework, are discussed here. This discussion is important considering that they largely hindered the achievement of the goals set out in earlier national development plans.

Policy implementation: One of the interviewees, Emmanuel Ekuwem, succinctly summed up the issue of policy implementation when he said that the problem in Nigeria is often not lack of policy but poor implementation of policy. For instance, changes in leadership, or even regimes (and there have been several in Nigeria's 42-year-history), often leads to changes in direction and issues that were previously top priorities are pushed it to the back burner. Also, the "Nigerian factor" (which includes everything from sloth, corruption to financial mismanagement) often scuttles good intensions and policies particularly when people are hired (through political patronage) to execute programs that they are not qualified for, or contracts are given out to people as a political favour rather than on merit. Even the attempt to privatize the Nigerian Telecommunications Limited (Nitel) in 2001 failed because, according to critics, the government was more interested in making money out of the deal than in ensuring that those who bought the company had the capacity to run the company and thus contribute to the development of the country's telecommunications sector. Titi Omo-Ettu said repeatedly during the process and after it failed that the government's objective was to raise revenue rather than build telecommunications capacity, and therefore ability to offer more money became the major criterion rather than bidders' performance indices.[5]

---

[3] Montealegre, Ramiro, "A case for more case study research in the implementation of Information Technology in less-developed countries," in *Information Technology for Development,* 1999, Vol. 8, Issue 4, p199.

[4] See Chapter 4 for a discussion of these policies.

Legal framework: Many in the IT industry enthuse about the wonders of e-commerce and how this way of doing business will literally open up a world of economic opportunities for Nigerian businesses and experts. As one interviewee noted in Chapter 7, in the digital revolution, the commodities of value are no longer material but information and knowledge and these can be traded regardless of geographical boundaries.[6] And as many in the Nigerian ICT industry argue, even physical goods can also be sold to consumers in other countries without human physical movement. These electronic transactions will be made possible through electronic commerce (e-commerce) and mobile commerce (m-commerce, which refers to business transactions done over the cellular phone). And thus, as stated in a previous chapter, Nigerian newspaper headlines are filled with "e-" to prefix all sorts of things that the digital revolution is capable of bringing to the Nigerian landscape. But a major obstacle to the achievement of all e-goals is the absence of an appropriate legal framework that clearly states the rules of business and protects merchants, customers, and investors. Many foreign businesses often complain that the cost of doing business in Nigeria is higher than in other countries with the same level of development, with most of that cost being "hidden." And "hidden cost" is the code for bribes and other expenses that one often has to pay before anything is accomplished in the country. Beyond these, is the high incidence of fraud and scams associated with doing business in Nigeria – even though these are perpetrated by an insignificant percentage of the population.

---

[5] The "successful" auctioning of Nitel was widely celebrated by government officials who considered it an achievement than the government was able to rake in US$1.3 billion for 51% of the company from the successful bidder, International Investment Limited (IIL) to develop the sector. In the end, IIL could not raise the money by the deadline and Nitel had to be put back on the auctioneer's block.

In the 1990s, the Nigerian government became aware of a scam (advance fee fraud) that some Nigerians were unleashing on greedy and gullible foreigners. Someone in Nigeria would send a letter or fax to another person in a foreign country telling the addressee of some "forgotten" or "unclaimed" money in the Central Bank of Nigeria. The details varied but it was usually about how a company that had gone out of business or an individual that had long been deceased was being owed large sums of money by the Nigerian government for work the company or individual had done for a previous Nigerian administration. The money was now ready to be paid out but the company or person(s) no longer existed. However, the addressee could pretend to be the deceased or no-longer-existing entity and claim the money with the assistance of the addresser who would take care of all the red tape for a share of the loot – usually an amount as small as 10%. As a first step in the process, the foreign recipient of the scam letter would be asked to remit some money as transaction fees[7] as well as give particulars of the bank account in his/her country to which the money in Nigeria would be transferred. When the foreign recipient paid out the first money, there were usually more requests for more because of some obstacles in processing the transfer. In the end, the recipient would have exhausted his/her life savings and in many cases – as a couple in Vancouver, BC did – take out bank loans to send to Nigeria in hopes that eventually millions of dollars (of money they did not earn) would be transferred into their accounts. The situation became so bad and earned Nigeria such a poor image abroad that the Babangida government inserted into the Nigerian Penal Code a law that became known as 419 (Article 4, subsection 19 of the penal code), which also assumed the name for the scam itself (Four-One-Nine).[8]

---

[6] Uwaje, Chris, personal interview in Lagos, November 2001

The scam has been widely reported in the foreign media and many foreign affairs departments have issued "travel alerts" warning their citizens against doing business with

---

[7] The scam takes its name from this: advance fee fraud.

[8] Thus it is common in Nigeria to hear a person or an action described as "419er" or "419."

Nigerians unless their credentials were authenticated by foreign embassies and high commissions in Nigeria. These publicity and alerts have not deterred those Nigerians engaged in 419 since there are always people eager to reap where they did not sow, but they have made many foreigners wary of doing business with Nigerians. This is particularly so now that 419 has gone online. Many "419 groups" in Nigeria now daily send e-mail to people overseas giving the same story that they did in the days before they had access to the Internet. In a digital world, access to names and particulars of potential 419 targets is even easier than in the past.

In August 2001, during this research, while waiting to use a computer at a cyber café in Ikeja, Lagos, I "inadvertently" read an e-mail being composed by a young man claiming to be a lawyer whose firm had been awarded a contract to negotiate for the payment of a huge amount of money to a foreign company that had done business with the Sani Abacha government (1993-1998). He was looking for a foreign legal firm to partner with his own firm to execute the project. It did not occur to the person sending out the e-mail that the recipient (presumably a lawyer) would be intelligent enough to know that any foreign business that was big enough to execute a contract of that amount would have already had its own legal team to negotiate on its behalf. But it did not matter if this particular e-mail recipient responded to or trashed the e-mail. The Nigerian "lawyer" knew that out of probably 50 such e-mail messages sent out, one person would be greedy enough to swallow the bait. And so "419" strives, causing enormous problems for those Nigerians engaged in legitimate businesses looking for foreign markets and investors.

But even if 419 were no longer an issue, there are other concerns about online business transactions involving money in Nigeria or with Nigerians. First, Nigeria is essentially a cash society. In Nigeria, the only respected medium of transaction is cash. Everyone pays cash for everything – from the purchase of peanuts to a brand new car. Use of credit cards has not yet caught on, except in a few five-star hotels (such as the Sheraton in Ikeja, Lagos and Abuja). Even then, what passes for credit-card transaction is actually debit. A customer is issued a card that is tied to the credit he/she has in an account of the card-issuing bank, and transactions are automatically charged to their debit accounts. But with very few places to use the card, cardholders just flash it around as a status symbol – one more thing that sets them apart from the rest of mass society. In the 1980s, the closest to "plastics"[9] were called luncheon vouchers, which were also like debit cards. People purchased them (like gift certificates) and used as cash in the few places (such as restaurants) where they were accepted. The merchants then redeemed the vouchers for cash. Over the years, luncheon vouchers (identified by the symbol LV) have since disappeared.

Toward the end of 2001, MasterCard, an international credit-card company, tentatively set up business in Nigeria through a network of four local banks. But the system, as it existed then, was essentially debit-based because cardholders were customers of the participating banks and their credit limit was tied to their account balances. A transaction could not be completed unless there were sufficient funds in the cardholder's account with a participating bank. While the arrival of MasterCard in Nigeria was widely hailed in the media as a major step in the journey to the information society, only a few commentators stopped to note a significant technical obstacle: there were few points of transactions in the country. Without the technology that allows a merchant to authenticate the validity of a credit card by swiping it through a scanner, the card was virtually useless. In places where credit cards were accepted in 2001, the merchant had to call a number in Accra, Ghana, to authenticate the card – and this added to the cost paid by the customer for the transaction. The poor state of technology in the retail business is underscored by the fact that in many of the high-scale shops (catering to the needs of the upper classes and expatriate community) in Lagos, Port Harcourt and Abuja, purchases were, as at 2001, still added up using the basic calculator.

---

[9] The casual name used by many North Americans for credit and similar cards.

Cheque transactions are also limited since there are no guarantees that there are sufficient funds in the checking account of the issuer. Without an officially sanctioned penalty for "bounced" (non-sufficient-funds) cheques, these financial instruments are considered highly suspect. Also, there is no framework for debt collections in Nigeria, as obtained in the developed countries, which would ensure that people are forced to honour their financial commitments and automatically penalized for not doing so. In the past, cheques were honoured with certain restrictions. For instance, a "crossed cheque" which could only be paid into a bank account (and not exchanged for cash) and certified cheques had value that have since deteriorated, following the crisis that beset the banking industry in the mid-1990s.

The finance industry was de-regulated toward the end of the 1980s as part of the structural adjustment program of the Babangida Administration. One of the outcomes of this was the mushrooming of banks, finance houses and bureaux de change, and this in turn led to the raising of interest rates on deposits by banks in order to stay competitive. Many banks were offering customers as much as 40% interests on their deposits. This boom in banking and the insistence by many employers that staff salaries would only be paid through the bank generated interest in and acquisition of non-cash financial instruments. But it was not long before the "new generation" banks crashed with many customers losing their money. Nigerians reverted to the trusted cash economy – at least they were sure that the money they had in hand was worth more in a bank that might not be standing the next time they went to make a withdrawal. The consequence of all this is that not even cheques are trusted as valid financial instruments. In a few cases where cheques are accepted, parties to the transaction meet at the bank and transfer the money to the recipient's bank account before the deal is concluded. This ensures that the goods and services are actually paid for. It also eliminates the need to carry around huge amounts of cash and thus expose oneself to armed robbery attacks especially in places such as Lagos where the incidence is very high.

Bank drafts are honoured in many transactions with the government as policies seek to reduce the source of temptation for government workers. But even this creates more avenues for these workers to make money on the side given the banking structure in the country. It is not unusual for one to spend half a day at the bank trying to make a simple withdrawal – especially in the older banks, yet to automate their functions. In many of these banks, customers' accounts are still stored in paper file cabinets and customers have to wait for a series of manual (and paper) authentication and authorization by different levels of bank workers before a simple transaction is concluded. Knowing that Nigerians would rather pay "a little something" than wait endlessly at a bank, many government workers who sell products or services to the public accept cash – but over the official cost of the transaction. For instance, the official fee for a travel passport in 2000 was ₦5,500, but workers would take between ₦6,500 and ₦10,000 from clients – depending on location and perceived urgency of the client.

There are expectations that the Internet would facilitate online banking and thus provide an alternative to cash transactions. However, as noted in a previous chapter, while about 56 Nigerian banks have established presence on the Internet, only very few offer basic online banking.

Another institutional obstacle in the way of Nigeria's achievement of global competitiveness through ICTs is the image the country has in terms of how it does business. As Tajudeen Diekola Oyawoye, special adviser on IT to President Obasanjo, points out: "There is a lot of money outside looking for (underserved) places (such as Nigeria) to go. But … because of what (foreign investors) have heard about how difficult it is to do business in Nigeria and how much government is involved in everything," Nigeria is one of the countries with the least foreign direct investment (FDI).[10] In 2000, the country had a foreign direct investment (net inflows) of US$1.1 billion though compared with the Sub-Saharan Africa total for the period (US$7.3 billion), the country did not fare too badly.[11] But Oyawoye believes that there would be a higher level of foreign investment especially in Nigeria's ICT sector if the industry was not so over-regulated that setting up a business as simple as a cyber café requires so many levels of licensing.

> It's very difficult to set up anything here because you have to get so many licenses … and so many people to approve what you are doing. It might be sensible for security considerations but (it slows down the process) … Right now, many people have Internet connection through Nitel, which has a 2 Megabits (2 MPS) bandwidth and this serves the whole country. And yet it's too difficult for other people to make their own arrangements like satellite connections. You have to pay so much for a VSAT license, for an ISP (Internet Service Provider) license. …[12]

8:2:2 Institutional detours

The Obasanjo government recognizes the challenges that these obstacles pose to the efforts to harness ICTs for development. It has therefore taken steps toward creating an atmosphere that is conducive to the achievement of its goals. One of these is the formulation of policies on the telecommunications and ICT sectors. For instance, the ICT policy is aimed at providing guidelines that will enable Nigeria to become "an IT capable country in Africa and a key player in the Information Society by the year 2005, using IT as the engine for sustainable development and global competitiveness."[13] It constantly stresses the role of the private sector in the development of ICTs in the country, and the need for the government to create incentives that will attract private investment – from both local and foreign sources.

---

[10] Tajudeen Diekola Oyawoye, personal interview in Abuja, November 2001

[11] The World Bank, *World Development Indicators*, April 2002

[12] Oyawoye, Tajudeen Diekola, personal interview in Abuja, November 2001

Also, for three years, a motion for a law on ICTs was debated in the National Assembly (and there were reports that the bill would be passed by the end of 2002). When passed, the bill is expected to provide a legal framework for the policies on ICTs, and particularly set out legal guidelines for the operation of online transactions in the country. It will also provide legal coverage for the ICT industry by restoring faith in the integrity of business transactions with and among Nigerians, thus repairing some of the institutional potholes and accelerate Nigeria's journey to the global information society.

8:3:1 State of the infrastructure – telecommunications, power and import dependency

Telecommunications infrastructure: According to a United Nations Economic Commission for Africa (ECA) report, a survey conducted by the Centre for International Development at Harvard University in collaboration with the World Economic Forum on the competitiveness of the business environment of 24 African countries showed Nigeria ranking constantly at the bottom or near the bottom in all categories. Under infrastructure, "the business community rated Nigeria's roads, ports, railways, and airports the least satisfactory … (and Nigeria) ranked 20th in the quality of telecommunications."[14] The state of the infrastructure – especially telecommunications infrastructure – poses a major hindrance to the use of ICTs in Nigeria, with Nigeria having one of the lowest teledensity in sub-Saharan Africa. As already shown in Chapter 6, in 2001, Nigeria had 0.43 main telephone lines for every 100 inhabitants, with a total cellular phone subscriber base of 330,000 (or 0.28 per 100 inhabitants). Estimated number of computers per 1000 inhabitants was 0.66 (2000 figure) in the country. The level of Internet usage reflects these low levels of penetration of the basic technologies.

---

[13] Federal Republic of Nigeria, *National Information Technology Policy*, 2001

While innovative, many ICTs largely depend on older technologies of communication. As Dearnley and Feather (2001) point out, it is therefore not a coincidence that countries with high telephone density have the most access to the Internet. Crusaders of the "digital revolution" have argued that the state of telecommunications infrastructure in Nigeria can be an advantage as the country can leapfrog to the new technologies without the cost of effacing old ones. In this context, the cellular phone is considered the technology of choice that is affordable and accessible to everyone who previously had no access to a telephone. And the technology adopted in Nigeria – global system of mobile technology – makes this objective particularly achievable. But reliance on cellular phone service, rather than development of landlines may not be the solution for a country such as

---

[14] United Nations Economic Commission for Africa, *Economic Report on Africa 2002: Tracking Performance and Progress* (UNECA, 2002), p.180

Nigeria where 65.1% of its population are living in the rural areas, according to the World Bank's 2001 data profile for Nigeria. And cellular telephony is definitely not independent of the basic infrastructure, the state of which continues to be worrisome even to ICT enthusiasts in the country. Its expansion depends on the capacity of a country's public switched telecommunications network (PSTN) and how the pre-existing telecommunications infrastructure facilitates network interconnectivity – that is the ability of different networks to interconnect with each other.

In Nigeria, the launch of the global system of mobile telephony (GSM) technology in August 2001 coincided with the preparations to sell Nitel, the country's public telecommunications operator. This stalled plans to expand the PSTN, a contract of which had been awarded to the German company, Siemens, since 2000. By the end of 2001, work had not started because Siemens would not commence until it was paid. Also, with the sale of Nitel, nobody wanted to take any risks in case the new owners were not interested in the project. The result was that the high demand for the relatively affordable GSM services led to congested networks in dire need of expansion such that it became difficult to reach other subscribers within the same network and extremely difficult to reach subscribers of other networks. Boye Olusanya, head of the customer services division of Econet – one of the GSM service providers – said the problem would be eliminated when more people subscribe to the GSM networks and create more mobile-to-mobile calls thereby reducing the dependency on Nitel and the necessity for GSM calls to go through the public switched network. [15] At the end of 2001, there were still more people on the PSTN than on the GSM networks, and more than a year after the GSM operators rolled out their services, interconnectivity remained a major problem in the expanding mobile telephony industry in Nigeria.

Constraints of electricity: In addition to dependency on telecommunications infrastructure, ICTs generally operate on electricity. But according to the United States Energy Information Administration, only 10% of the rural households in Nigeria are connected to the national electricity grid and over all just about 40% of Nigerians have access to electricity.[16] In the towns and cities where there is electricity, its presence is felt more in its absence leading to the nicknaming of the National Electric Power Authority (NEPA) as Never Expect Power Always.

> Nigeria has approximately 5,900 megawatts (MW) of installed electric generating capacity, in the form of three hydro-based stations and five thermal stations. Nigeria faces a serious energy crisis due to declining electricity generation from domestic power plants. Power outages are frequent and the power sector operates well below its estimated capacity (operable capacity in July 2000 had fallen to 1,500 MW).[17]

Another major problem that besets power supply in the country is the incidence of theft and vandalism. Often, wires and meter boxes are stolen and re-sold by people colluding with NEPA staff. It is common to see meter boxes mounted outside homes all fenced up to protect them from theft. Other times, NEPA properties are vandalized in places where indigenes hope to pressure the government to accede to their demands. In most cases, government continues to be indifferent to their needs and the people have only succeeded in worsening the already poor state of electricity in the country. As one interviewer put it: "You put fibre wire there and someone goes and steals it. This wire is almost useless unless you know what you want to do with it. Just because the thing is passing through their land, they think they can use that as leverage so that government can come and put a school in their village."[18]

---

[15] Olusanya, Boye, personal interview in Lagos, December 2001

[16] US Energy Information Administration, "Nigeria." Available at http://www.eia.doe.gov/emeu/cabs/nigeria.html#ELEC Accessed Nov. 20, 2002

[17] Ibid.

Electricity generation and distribution affect the diffusion levels of ICTs in Nigeria. While the cost of the GSM mobile phone services was affordable – relative to North American rates – they were still very expensive in terms of the income of the average wage earner in the country (the gross national income per capita in 2001 was US$290). The GSM operators attributed the high costs of their services to the extremely high overhead cost of business in the country especially given the infamously epileptic nature of power supply in the country. They argued that in South Africa (where one of the companies also operates), they did not have to worry about power supply and so they could keep the cost of phone services marginally low. Whereas in Nigeria, for instance, Econet (a company that also does business in Zimbabwe) had to have at least two generating sets at each of the ten base stations it started off with. One generator was a back up for the public power supply and the second generator was a back up to the first set – all to ensure uninterrupted service. Olusanya of Econet said:

---

[18] Amana, Etim, personal interview in Abuja, December 2001

> Infrastructure in the country has been a big (problem). In North America, when you talk of cell sites and things like that, you don't worry about generator. Here, you need a generator and a back-up generator and if you are not careful, you need a back up to back-up generator.[19]

Emmanuel Ekuwem, vice president of the Nigerian Internet Group, expressed similar concern: "Energy is an important factor in this revolution. If not probably taken care of, the (information and communication) revolution will fail. It's energy that drives the machines."[20] Ernest Ndukwe of the Nigerian Communications Commission said electricity plays a critical role because "every known equipment needs electricity supply – constant and steady. Without it, it's very tough. I think this is probably the biggest threat to the expansion of ICT use in the country. But thank God the president is addressing this frontally."[21]

Besides the energy constraints, providers of telecommunications services also complained about other problems that intervene in their efforts to provide good and affordable service to Nigerians. Olusanya of Econet said the "GSM revolution" is a major shift from what previously occurred in the country's telecommunications sector. He noted that it was the first time that investment of that magnitude (each license cost US$285 million, in addition to the cost of setting up the infrastructure) by the private sector "in a country that is notoriously difficult to set up things."[22] And being pioneers comes with its own particular challenges because there are no precedents for the operators to take a cue from.

---

[19] Olusanya, Boye, personal interview in Lagos, December 2001

[20] Ekuwem, Emmanuel, personal interview in Lagos, November 2001

[21] Ndukwe, Ernest, personal interview in Abuja, October 2001

[22] Olusanya, Boye, personal interview in Lagos, November 2001

> One of the things that we have found is that you can go to other places and find accounts of experiences in setting up (a) GSM network but it's not the same here. It's been hard because we have been the ones to have to pay the educational price. We are educating the Nigerian public on (available) services and how to use (them). … It is both a good and challenging experience. It's a good experience because on a daily basis, you see the change in the country. You see things and know that as time goes on, we'll improve. Today, you can actually see roadside banner adverts with telephone numbers on them – telephone numbers that were alien to a lot of people. You can actually see a beggar with an ad that says 'please call me on … a GSM number.'[23]

Import dependency: Another general infrastructural obstacle lies in the fact that until very recently, Nigeria did not produce any ICTs. While some of these technologies are produced or improvised locally, the bulk of ICTs are imported as finished products. And this means that the ICT industry has been (and is likely to continue to be) import-dependent both for products and services. Ekuwem, of the Nigerian Internet Group (NIG) agreed that "undue reliance on foreign companies" will severely "upset the successful implementation of the revolution."[24] He and other IT practitioners in the country are therefore insisting that the government, while acknowledging the globalized nature of current national economies, should not hand over the development of ICTs in the country to foreign companies.

> Some of the jobs should be done by Nigerian companies. After all, we are not making routers and switches and Ethernet cards and microprocessor chips and motherboards. So those ones can be imported, but when it comes to assembly, systems integration, turn-key projects implementation, we have sufficient local manpower to handle such projects. Of course when we allow local companies to

---

[23] Ibid.

[24] Ekuwem, Emmanuel, personal interview in Lagos, November 2001

> handle such projects, you are also imparting skills on the job, or auto imparting of skills via hands on. … So if they decide to give all the contracts to foreign companies to execute, local companies will feel disgruntled and discouraged and sidelined. This will have a negative social impact on the whole revolution.[25]

It is interesting to note that Ekuwem's case for local participation places less emphasis on manufacturing than on execution of "contracts." Clearly, even someone as proactive as he is has given up on the prospects of Nigeria becoming self-sufficient in (or even exporter of) ICTs.

For Ibukun Odusote of the Federal Ministry of Information, the lack of basic infrastructure as well as the over-reliance on imports will stymie the country's ability to achieve its ICT-related goals. But this does not have to be so, she argued, because Nigeria has the capacity to locally produce ICTs.

> If you go anywhere in the world where (ICTs are produced), Nigerians are there driving these things … in the factories, development team and research. It's possible for them to come back to Nigeria and do the same things here. But they can only come when they know that they can go to the bank and get their money in minutes, and not when they have to take a bed to the bank before they get their money. And not when they are being harassed by armed robbers everywhere. And not when they get to government and will have to pay half their contract price to people here and there before they get the contract … If corruption is taken away … many more people will get involved. In summary, we have the capability.[26]

Odusote thus makes a connection between the need to be self-reliant in the ICT sector with other problems of development in the country such as insecurity of life and property

---

[25] Ibid.

[26] Odusote, Ibukun, personal interview in Abuja, November 2001

(crime), poverty and corruption, as identified by Yesufu, 1996.[27] Interestingly, the level of poverty in the country has also been blamed for the high incidence of armed robbery because, as one interviewee put it, Nigerian youths are desperate as a result of lack of jobs, the rate of inflation, and having to live side by side with rank opulence. But while ICTs are expected to create jobs, wealth and alleviate poverty, these very conditions may hinder the development of the ICT industry. As Odusote points out, if ICT-skilled Nigerians in the Diaspora do not feel comfortable enough to return to the country, the development of ICTs will continue to depend on external conditions, and this dependency is not sustainable. Corruption is also another problem that deters many Nigerian ICT experts abroad from returning to work in Nigeria. Again, ICTs are expected to solve this problem by making transactions so transparent and information so available that one would not have to offer a bribe before accessing government services. The connections between these issues goes back to the argument made at the beginning of this chapter: while ICTs are expected to solve some crucial developmental problems in Nigeria, their success will largely depend on how these problems hinder or facilitate the achievement of ICT-centred objectives. The question – to be explored in the second part of this chapter – becomes again pertinent: what should be the starting point – taking care of the developmental problems or investing in the ICT sector and hoping that the technologies would solve these problems?

---

[27] Yesufu's analysis of the problems with Nigerian development efforts appeared in Chapter 3.

Tajudeen Diekola Oyawoye, the special assistant to President Obasanjo on IT suggested that domestic producers of ICTs could be encouraged through government patronage of their products. He said he had already made recommendations along this line to the government, suggesting that purchasing departments in government establishments should insist that those who want to sell computers to government offices should build them in the country. "Right now we are at the level of assembling – buying the motherboard, casing and hard disk and putting them together. I want Nigerians to do that and sell them to the government. At the moment the government is averse to buying clones, may be because most of the people who bring proposals to them are those with large stocks of these international brands." [28]

8:3:2 Infrastructure detours

Like Odusote, many Nigerians are optimistic that the country has the capacity to scale the hurdles and potholes presented by the current levels of ICT infrastructure in the country. In many cases, they have found and improvised detours and short cuts in the journey toward the global information society. Three of these detours are discussed in the following paragraphs. It must be noted that as ICTs are integrated technologies and often depending on other technologies, these detours are not isolated developments but affect and are affected by other strategies of dealing with the problems. In the analysis therefore, there are inevitable overlaps in developments in the different areas. The particular strategies of focus here are: mobile phone telephony, alternative sources of power and local manufacturing and/or improvisation of ICTs.

---

[28] Oyawoye, Tajudeen Diekola, personal interview in Abuja, October 2001

Mobile telephony – The award of the digital mobile licenses (DMLs) to three operators and the commencement in August 2001 of cellular phone delivery on the GSM platform radically changed the telephony landscape in the country. As at November 2002, unconfirmed reports released by service providers indicated that at least one million cellular phone lines had been subscribed in the 15 months since the operators rolled out their services. Added to the number of functional main lines (about 500,000), the general teledensity in the country has increased more phenomenally than what occurred in all the years of telecommunications history in Nigeria.

The rise in the number of cellular phone subscription in the first 15 months of the GSM launch resulted from several factors. First, on the surface, the technology does not depend on Nigeria's pre-existing telecommunications system. This means that Nigerians without core infrastructure such as telephone main lines or electricity could still have access to a GSM-enabled cellular phone service. All anyone needed to qualify as a phone user was the money and residence in an area of coverage (mostly the major cities). Second, and related to the first, the pre-paid packages offered by the service providers made it easy even for the homeless to afford a telephone – not in terms of the price, but because one did not need to hook up, show evidence of regular income or make any contractual commitment. While the reference by Olusanya to beggars (the North American equivalent of homeless street panhandlers) owning cell phones might be an exaggeration of the reality just three months after the service providers rolled out their services, it was not long before, theoretically, many city dwellers could afford to own a cell phone. Also like many countries in Europe (and unlike North America), Nigerian cell phone users pay only for the calls they initiate. In-coming calls are at the originator's cost. That way, it is possible for users to manage their credits and tailor usage to meet their ability to buy the "re-charge" (pre-paid phone) cards. In the cities where the service providers had set up base stations, the sight of people on the street talking on their cell phones had become, by December 2001, as regular as in places such as Ghana and South Africa.[29]

While much of the diffusion is occurring in the cities and among the fairly wealthy and ICT-aware individuals, there were expectations that ultimately, cellular phone service would also expand into the rural areas because the DMLs were issued on the condition of national and rural spread, failure of which would attract penalties. For now however, Olusanya of Econet warned that the diffusion of cellular phone usage would continue to occur in the big cities:

> We must appreciate that when you are making decisions on sites there must always be commercial considerations and in order to be able to give service in the rural areas, the business must be up and running in places where you can get revenue to continue its development. That is not to say there will be no revenue in rural areas, but you and I know that we cannot compare Lagos to certain cities outside Lagos. But as the network keeps growing so is the desire to put up these sites in locations outside of the major cities.[30]

The ultimate goal, according to the policy on telecommunications, was to provide 1.2 million cellular lines within two years of its release (that is, 2002) – a great improvement given the status before August 2001, but still an insignificant drop in a sea of some 116 million people, though the target seemed to have been exceeded. The policy also provided for the continuous development of the overall telecommunications infrastructure in the country even as work had stalled in this area and the situation seemed to have worsened in recent years. Still, as discussed in Chapter 4, there were projects such as expansion of the country's PSTN and rural telephony that were aimed at increasing the country's teledensity to move access beyond the towns and cities and into the rural areas.

---

[29] South Africa has the highest level of ICT penetration and use in Africa. Ghana, while not ahead of Nigeria in total numbers, records a higher level of per capita usage of many ICTs.

[30] Boye Olusanya, personal interview in Lagos, December 2001

Alternative sources of power: The Obasanjo Administration made the provision of stable and regular electricity supply one of its priorities. In March 2000, President Obasanjo "replaced the NEPA management with a nine-member technical committee to run the utility with the mandate of ending power cuts by December 2001."[31] The government also explored the prospects of privatizing, raising foreign participation and encouraging other groups to get into the electricity supply market. As at December 2001, NEPA's technical committee had not met its mandate of uninterrupted power supply. And as in the telecommunications sector, many places that had some form of electricity supply in the past were now completely cut off either because their area transformers were vandalized, had aged or had "blown." A "blown transformer" is a common phenomenon in Nigeria especially in areas where new houses are springing up and residential neighbourhoods are growing rapidly. Often, because of the difficulties in getting officially connected to the national grid, people just hire local contractors to wire their new houses and connect to the electricity grid. This leads to overextension of the energy supply resulting in frequent brown-outs (known in Nigeria as "low current") or outright power outages.

---

[31] US Energy Information Administration, "Nigeria." Available at http://www.eia.doe.gov/emeu/cabs/nigeria.html#ELEC Accessed Nov. 20, 2002

Despite the seeming enormity of the energy situation, the Obasanjo government was determined to leave a legacy of uninterrupted power supply at the end of its tenure. It hoped to achieve this mostly through the privatization of NEPA, breaking up the utility company's monopoly and opening up the sector to competition. Accordingly, in

> October 2002, President Obasanjo submitted the Electric Power Sector Reform Bill (EPSRB) to the National Assembly. EPSRB authorizes the creation of firms to take over the various functions of NEPA. The firms would also take over NEPA's assets, liabilities and staff. Passage of EPSRB will also repeal the NEPA and Electricity Acts, and establish the Nigerian Electricity Regulatory Commission (NERC). NERC's responsibilities will include establishment of electricity tariffs, enforcement of performance standards, and the protection of consumer rights. … [32]

Years of military governments impervious to the needs of the people have stiffened Nigerians against expectations that the government would solve their problems. And so, while the Obasanjo Administration continues to find ways of solving the electricity supply problem in the country, Nigerians – at least those who can afford it –have since gotten used to providing alternative sources of energy supply for themselves. As a result, manufacturing and sale of generators and their parts and repairs, power back ups and uninterrupted power supply (UPS) systems are among the fastest growing businesses in Lagos and some other big cities in the country.

---

[32] Ibid.

In the ICT industry, when someone says he (infrequently she) wants to buy a computer system, what he means is a computer, printer and UPS. In all the places visited during the research, there was not a "system" that did not include a UPS on the floor under the computer stand. The average would be two and in some places – depending on what the system was being used for – there might be three UPS units, with each providing back up for the others. At cyber cafés, all the computer terminals had at least one UPS that might provide up to 20 minutes of power when the public power supply was gone. In every office (besides government offices), there was at least one high-capacity generator, often with switches that automatically turn them on only seconds after the public power supply is gone. In many of the cyber cafés and business centres, customers were charged higher for services if a generator was providing the power. This was very common in cities that had few service providers, therefore leaving the customer with fewer options.

Local practices in a global context: in October 2001, Zinox Technologies launched the first made-in-Nigeria computer, Zinox, in the country. The importance of the event was underscored by the presence, at the launch in Lagos, of Vice President Abubakar Atiku, Senate President Pius Ayim, several state governors and federal ministers and other cabinet-level public officials. According to its chairman and managing director, Leo Stan-Ekeh, Zinox has two major objectives: to create an information technology identity for Nigeria and to "computerize Nigeria." To achieve the first objective, the company planned to make locally available, affordable and tropicalized computers for domestic use and for export to neighbouring countries. To achieve the second objective, the company had, by November 2001, started a tour of the country to publicize, not just its products, but computer usage. "We want to start with building a PC culture first … start with creating interest," Stan-Ekeh said.[33] This will then build interest in Zinox so that users "will feel special for having a Zinox computer."[34]

The company also encourages training in computer technology through the funding of a ₦10 million computer lab in one of the universities in the eastern part of the country with the condition that all students must take a computer course regardless of their fields of study. Zinox was also donating computers to schools in Lagos (its area of operations) and lobbying the business community to follow suit. Stan-Ekeh's pitch was: rather than donate rice to people at Christmas,[35] give them computers because that way you empower them to help themselves. He hopes that awareness in computers would lead to demand and his company had the capacity to meet that demand.[36]

Before the launch of Zinox, other companies such as Omatec were quietly manufacturing computers and peripherals. Also, the long-existing process of "cloning" and local assembling of computers and other IT components, that become widespread in the country was already forcing down the costs of many ICTs, thus increasing the level of penetration. In the past, Nigerians in the Diaspora and charitable agencies dumped used and mostly technologically obsolete computers in the country. But by 2001, the cost of shipping these old computers had nearly outstripped the cost of buying locally assembled computers of the highest grade and capacity in Nigeria such that more people could afford to purchase computers. Toward the end of 2001, one could buy a high-capacity computer and printer for about ₦120,000 (approximately Cdn$1,700).

---

[33] Stan-Ekeh, Leo, personal interview in Lagos, December 2001

[34] Ibid.

[35] Gift of food items is common in Nigeria during seasons such as Christmas, Easter and the end of Ramadan – the Muslim fasting period. A donation of a computer involved a much more financial investment than a bag of rice, which as at December 2001, could be purchased for less than ₦2,000. It would take at least ₦120,000 to acquire a decent computer "system."

[36] The "performance" of Zinox became such that in 2002 it was designated as the official federal government supplier of computer products.

The diffusion of cellular phones (especially through the GSM technology) has created other ways of dealing with some of the infrastructural problems in the country. With sophisticated cell phones that come with the web application protocol (WAP), users can access the Internet without requiring a computer, telephone, modem or electricity (though electricity is still required to charge cell phone batteries). Cell phone marketers (usually representing their offices in Europe) promote the utility of this generation of phones such that many affluent Nigerians believe that all the problems have been eliminated. This is also the attitude toward the problem of interconnectivity among the providers of GSM services in the country. As someone put it: "Nigerians are good at throwing money at a problem." It is now common to find people owning three cell phones with each subscribed to the three GSM providers in the country. That way, if they want to call someone on the Econet network, they use the phone subscribed to Econet. The same goes for the MTN and Nitel networks. Incidentally, when GSM providers tally up the number of subscribers (currently put at more that one million), the duplication and triplication of subscriptions are obviously not being factored into the calculation. That is, does someone who subscribes to all three GSM providers count as one or three?

The obstacle of low access to many ICTs is also being overcome by the presence of business centres and cyber cafés providing paid and assisted services. As noted in Chapter 6, wireless connections (another way of getting around the inadequate telecommunications infrastructure in the country) in the three main ICT cities of Lagos, Port Harcourt and Abuja, have allowed cyber cafés to provide relatively affordable services to clients. And the use of centre staff to type up e-mail messages as well as perform other services for clients bypasses the need for anyone to be IT-literate. In offices (both public and private), it is common to find workers who do nothing else but "operate e-mail" for their organizations. Incidentally, the general attitude of Nigerians that one can always pay someone else for any service may actually retard the rate of general IT-literacy among the population.[37]

On a general note, one of the interviewees, Etim Amana said a lot of efforts are being made by the various sectors and stakeholders to solve the problems of infrastructure and create an enabling environment for the telecommunications industry to thrive. For instance, Nitel was planning to build a fibre optic network around the country and many other public corporations were building their own networks. A section of the Nigerian military already has a network. NEPA was in the process of putting fibre links on its high-tension wires to provide Internet connectivity, while the Nigerian National Petroleum Corporation (NNPC) also has a fibre link network. In future, access to some of these networks may be open to a wider network of users especially if the many networks and commercial service providers pool their resources. Much of the problem at the moment, according to Amana results from lack of coordination.

---

[37] In Nigeria, people have drivers, domestic maids and servants such that anyone who is an Oga Sir or Oga Madam (Yoruba expression for a big man or woman) does not have to personally do anything. In many offices (both private and public) a typical Oga has a personal assistant, a secretary, a typist, clerk, messenger (or office boy/girl) and driver.

> People are not talking to each other. There's no need for these different companies to have their own private networks. The fibre has infinite volume. (They could pool resources and) put one and everyone could share and pay according to usage. … What stops MTN and Econet from having one mask and then sharing the cost of running it? They can have both of their antennas on the mask and there's no problem because they transmit on different frequencies so there is no interference … May be very soon they will do that because (it is being done in other countries).[38]

8:4:1 Levels of poverty and illiteracy

With 66% of the Nigerian population living in poverty, poverty is a major problem in Nigeria and increasing annually especially in the rural areas.

> According to official statistics, the number of people living below the national poverty line rose from 18 million in 1980 to 67 million in 1996 – from 28% of the population to 66% (Nigeria, Federal Office of Statistics 1999). During the same period the share of the population in core poverty (with per capita consumption spending less than a third of the national average) increased from 6% to 29%, with most in rural areas.[39]

For this reason, the Obasanjo Administration made the alleviation of poverty one of its cardinal programs and in its first year began efforts in this direction. A major objective in the development of ICTs as tools for socio-economic development in Nigeria is the reduction of poverty. As the policy on ICT states in its mission statement, these technologies will be used to create wealth and to eradicate poverty. With its 1999 adult literacy level at 62.6% (three percentage points above the average for sub-Saharan Africa (UNDP Human Development Report, 2001), Nigeria is not the most illiterate country in the region. But the Obasanjo Administration also realized the need to raise the literacy level of Nigerians over the age of 15. One of the things President Obasanjo did on assumption of office was to declare a universal basic education (UBE), thus making primary education free and compulsory for all children.

---

[38] Amana, Etim, personal interview in Abuja, December 2001

[39] United Nations Economic Commission for Africa, *Economic Report on Africa 2002: Tracking Performance and Progress* (UNECA, 2002), p.175

These two issues are related because as studies have shown, access to education empowers the individual by giving him or her the tools to have healthy, productive and dignified lives. In Nigeria education was always a fast track to wealth and privilege – at least before high levels of graduate unemployment made many see education as a waste of productive years (years that could have been better used learning a trade or apprenticing to become a trader). The obstacles posed by poverty and illiteracy to the goals of harnessing ICTs for socio-economic development are too obvious to merit repetition and the Obasanjo government seemed to have taken the problems seriously, at least at the beginning of his administration.

8:4:2 Questionable detours

The Obasanjo Administration, on assumption of office in 1999, unveiled a Poverty Alleviation Program. Incidentally, its acronym, PAP, is also the name of the corn meal that babies from homes with modest income are fed with before they are old enough to eat solid food. In 2000, the program was ensnared with a lot of scandal, and by 2001, its presence was only observable on huge billboards in some of the cities. For the majority of Nigerians, putting pap (*ogi* or *akamu* in other Nigerian languages) on the table was a daily effort, and buying computers or other ICTs was not on their shopping lists. It was not surprising therefore that almost everyone who participated in the research said poverty would hinder the spread and diffusion of ICTs in Nigeria. The solution, according to many, was government subsidy of the technologies to make them affordable by the "common man."

To curb rising illiteracy levels, the government introduced the Universal Basic Education (UBE), which was theoretically a proactive approach as lack of money for tuition fees has often caused parents to withdraw their children (especially daughters) from schools. By the 2001/2002 school year, the program had reported a primary school enrolment of 26,985,704 (with about 43% female enrolment) and 492,586 teachers (representing a ratio of one teacher to 55 students).[40] It was not clear however if these numbers represented any significant improvement over enrolment before the UBE as there are no figures to compare with. Even if it is an improvement, at an average of one teacher for every 55 pupils, it is doubtful that Obasanjo's UBE has achieved much. In the first place, the quality of public education in the country is so low that only very poor and probably illiterate parents send their children to public schools. This means that the child has no way of continuous learning outside the classroom. The average Nigerian struggles to send her child to private schools which have over the years spread all over the country. In the past, it was a social status symbol to send one's child to a "nursery school" (the privately owned and run kindergarten and primary schools where both the tuition costs and academic standards were very high). But now, there are several grades of "nursery schools" – from those that are just a little better than the public schools to those modelled after the British independent and fee-paying school system – very elitist and very expensive.

---

[40] Universal Basic Education Programme (UBE) Basic Education Statistics 2001/2002, available at: http://www.ubc-nigeria.org/QuickLinks/NATIONAL_DATA_SUMMARY.htm

For some time now, private secondary schools have also become commonplace in Nigeria. Some are "international schools" such as the American school or the British school, initially set up so that children of diplomats and expatriates could receive the kind of quality education obtainable in their home countries without having to move away from their families. These days, because of the deplorable state of public education in Nigeria (including the previously high-standard "unity schools") parents who are affluent but not quite enough to send their children to schools in Britain and the United States, send them to the expensive international schools (many of which are located in Lagos). In the second half of 2001, one observed a new phenomenon among the upper middle class:

they now send their children to universities in Ghana because the standard is better than in Nigeria and costs are lower than sending them to North America or Western Europe.

8:5:1 Ideological and cultural framework[41]

It is widely argued that technology is not just the equipment, but comes bundled with certain set of ideas. In feminist analysis of women and technology, the point is frequently made about the ideological context at the point of the invention of technology. For instance, it has been argued that the computer was designed with a certain male notion of rationality and efficiency, and the Internet is specifically a creation of an institution of male supremacy (the United States military) and therefore comes appropriately bundled with male ideologies that particularly exclude women. As Light notes, the "histories of computer networking document the evolution of electronic communication in a male-dominated environment" with the first computer network, ARPANET, evolving in the 1960s out of the US military.[42] According to Spender (1997), given the origins of computer technology, men got in first, shut the door behind them and re-arranged it (the technology) to suit their needs. The consequence is that in many cases where women have equal access to the technologies, they are held back by fear that they are stepping into male territory.

---

[41] In this chapter, the definition of culture is subsumed in that of ideology, defined here as a "set of ideas." While one acknowledges the differences between the two, one argues that they are not so starkly differentiated in the context of their connections with technology.

[42] Light, Jennifer S., "The Digital Landscape: New Space for Women?" in *Gender Place & Culture: A Journal of Feminist Geography*, Sept.95, Vol. 2 Issue 2, p.134

While agreeing that "technology does not develop independently, but is part of a particular social-economic and cultural set up which circumscribes relevance and meaning," Zoonen (1992: 14) presents a contrary and constructivist analysis to explain technology as a discursive practice. She argues that the "meaning and social significance of technology is not pre-given but established in ongoing historically and culturally specific discursive practices." (p.12). Bush (1983:165, cited in Zoonen, 1992) also argues that the meaning and relevance of technology for everyday life are constructed in the context of production, usage, environment and culture.

These debates on the ideological nature of technologies raised the need to investigate the ways in which certain notions of the information society harmonize or conflict with prevailing practices in the Nigerian society. Two related areas were isolated for examination: the lack of openness in Nigerian institutions and the mystification of knowledge. They in turn raised questions concerning the ways in which ICT usage is perpetuating old and/or creating new socio-economic class, gender, ethnic and religious cleavages in the country.

The areas of attention were chosen because they dominate the Nigerian civil service (and other areas of society), dating back to colonial days and sustained by the colonial civil service structure that continues in the public sector. Also, years of military rule following shortly on the heels of colonialism have created a people suspicious of each other and withholding information for fear of reprisals. The ethnically and religiously divisive nature of the society reinforces an ideology that contradicts the freedom of expression that is entrenched in the Nigerian 1999 constitution. Furthermore, given the low literacy levels and the disparity between those who have access to education and those who do not, knowledge has often been mystified in the Nigerian society at many levels. For instance, for a woman to sell in the market, she not only goes through the official process of acquiring a stall (or space) but also must be "initiated" into the association (sometimes operating as a cult or pressure group) of those already selling the same products in the market. Initiation into the group guarantees a peaceful business environment for the newcomer as well as access to the secrets of the trade – such as where to buy cheap products to maximize her profits.

"Official secrets" Vs. open information society: Old bureaucratic and colonial ideas about "Official Secrets" still dominate thinking about ICTs in Nigeria. Access to policymakers and documents in the ICT sector remains restricted and while many public agencies and departments have spent millions of Naira commissioning and launching websites, useful information is scarce and often contradictory. Responses to electronic queries are at best minimal.[43] The absence of information from official sources contradicts the idea of the information society with its assumptions about openness and transparency – or something Friedman (2001) might call the democratization of information. In this environment, the colonial and military ideologies of secrecy and disconnection from the people that have dogged the Nigerian government for years constrain the ways in which Nigeria can compete globally using information technologies.

---

[43] As at the time of writing this chapter (November 2002), I am still waiting for response to a query I sent to the NCC through their website 23 months ago.

In Nigeria, the provision of information has always been taken seriously. The Ministry of Information – at both the federal, state and local government levels – remains an essential government institution even in lean times when some ministries are merged or scrapped. But institutional information in Nigeria has always been unidirectional with little or no forum for feedback. In the country, information flows *from* the government *to* the people through several media channels. This unidirectional flow of information was especially reinforced because until a few years ago, all the electronic media were fully owned and controlled by the state. The federal government owned and controlled two national newspapers and every state government had its own newspaper. In recent years however, the electronic media have been privatized to provide for a wide-range of information sources and channels. With the prevalence of military regimes, the information that went out even from the private media was tightly controlled through self-censorship while government repression of the press and public opinion further closed any channels of feedback.

During the Babanginda Administration (1985-1993), a program was set up with the task of mobilizing the people. The concept of mobilization implies a two-way communication process. But MAMSER operated within the military framework of the day: information flowed in one direction. In the current context of "information society," information flow must necessarily be a two-way process. But so far, while Nigeria exalts the importance of information for development, the understanding of information flow is still embedded in the military-era logic of one-way street. For instance, the National Orientation and Public Affairs is a program raised by the Obasanjo Administration with objectives that include the enhancement of "interaction between the government and the governed."[44] It has set up a website to generate feedback from Nigerians on good governance. But only a small percentage of the Nigerian population (mostly Nigerians based abroad) have access to the site. The flow of information has seemingly changed direction, but it is still unidirectional: now people tell government what they think without any perceptible response from the government or sign that the views expressed in the chat forums at the site are directed to the relevant government authorities.

Monopoly on knowledge: There is a certain mystification of knowledge about ICTs that clash with policy goals of general IT literacy and universal access to achieve overall socio-economic goals. Access to knowledge of ICTs in Nigeria is raising new sources of power and class of people who consider their knowledge of and access to ICTs as a status symbol. This creates a monopoly on knowledge of ICTs with people parading around as the "IT person" and withholding their knowledge and information for fear that they would lose their new sources of economic and social power. Oyawoye finds this "very silly" because with access to ICTs, anybody can easily acquire information about everything on the Internet.

---

[44] http://www.nopa.net/Office_Of_The_SSA/frame2.html Accessed, Jan. 4, 2001

> It's all part of this misguided elitist thing. People think that acquiring computer skills is something that only a few people should have access to, and so they set up very elaborate training institutions and carry huge overheads and therefore charge very high fees. Some actually set up elaborate executive schools for top executives and children of very rich people …[45]

The mystification about ICTs is further exacerbated by the cost of training and acquisition of the technologies. As Oyawoye said, it is very easy to learn how to use computer when one has access to it and thus bypass the need to pay exorbitant fees to "computer schools" which, as noted in a previous chapter, do not really offer much hands-on training because of the ratio of students to the technology. It would be easier and cheaper for people to learn how to use the computers if they had the systems at home, said Oyawoye. He criticized the media for not helping to educate people about ICTs because journalists are preoccupied with "putting their opinions or trying to make and break politicians." This leaves the field open for "anyone who has some knowledge about anything to put a premium on that knowledge and mystify it. … There is a lot of ignorance passed on by journalists who don't even know what they are writing about."[46]

The realization that there is money – lots of it – to be made in a knowledge-based economy is interpreted by many IT-aware Nigerians as a monopoly on and commodification of knowledge. The Nigerian environment makes this especially attractive because of the phenomenon of contracting – or in the language of ICT age, consultancy or outsourcing. People hoard what they know because they believe that if their knowledge is dispensed as public service, everybody would become an expert thus cheapening their services or making them totally irrelevant. For instance, it is a common saying in Nigeria that if everybody knew how to fix cars mechanics would be out of business (and in Nigeria, this assumes an added meaning because mechanics particularly prevent their customers from seeing what they are doing on their cars to avoid a do-it-yourself the next time the car has problems). Also, it is common for commercial drivers (bus and taxi drivers and chauffeurs) to deride women or elderly drivers (or anyone who looks like an Oga) with derogatory comments such as "I go drive myself" or "You fit buy car but you no fit pay driver."[47]

---

[45] Oyawoye, Tajudeen Diekola, personal interview in Abuja, November 2001

[46] Ibid. The point about some IT journalists writing about what they do not know was observed in many articles that sought to "educate" the reader on e-mailing and the operations of Internet chat rooms. It was obvious that many journalists simply repeated expressions without really understanding them, even as one of the newspapers, *This Day* periodically published a glossary of ICT-related terms.

It may not be obvious to modernization theorists – and other Weberians who argue that a major indicator of modernity is specialization of functions and roles – but Nigeria is a society driven by a certain notion of specialization and clearly defined occupational boundary lines. This contrasts with an information-society ideology of multi-tasking (or jack-of-many-trades-and-master-of-all) in which anyone with training in any background can do anything because ICTs facilitate the process. At the academic level, as shown in the introductory paragraphs of Chapter 1, scholars and practitioners in ICT research and policy come from diverse disciplinary backgrounds because of the very nature of the technologies themselves and the issues that they raise. Indeed in a society such as Nigeria, where ICT usage is still in its infancy, many of the people in the fields had no specific ICT training. But they have come into the sector and created associations aimed at keeping others out through rigid rules about who qualifies to be an IT person and who does not, as well as certification and licensing procedures that ultimately restrict entry (though the associations frame these rules in the language of standards and excellence).

---

[47] The first is Nigerian Pidgin English for "I will drive myself" and the second means: "You can afford a car but can't afford to hire someone to drive you." In both cases, there is a societal assumption that an Oga – person of a higher socio-economic class – MUST have drivers rather than drive him/herself.

8:5:2 Ideological and cultural detours

The research revealed that many Nigerian users of ICTs are not conscious of any foreign ideological contents in the technologies. Those who make reference to the overwhelming importation of ICTs do so only within the context of the impact of dependency on foreign markets on the economy and the sustainability of the ICT project. As Zoonen (cited above) has argued, the ideology of technologies can change in the process of usage and adaptation such that new meanings are created to mediate the relationship between users and the technologies. In this sense, ICTs as used in Nigeria constitute a set of discursive practices and their meanings and social significance are not pre-given. To further strip ICTs of their "foreign ideologies," it was found during the research that, ICTs – especially the Internet – are mostly used within the country to solve locally generated problems. One notes in passing that this seemingly contradicts official conceptions of ICTs as tools that will help the country to be globally competitive – unless one argues that in a globalized era the local is global just as the global has become local.

ICTs as techniques and discursive practices – Neither the 306 people who participated in the questionnaire portion of the research nor those interviewed personally considered

ICTs as "foreign technologies." For the former group, only a few of them owned some of the technologies that constitute ICTs though a majority of them had used the different technologies in the one month preceding their participation in the survey. All of them aspired to own or have more access to the technologies in the next 12 months. In the open-ended sections of the questionnaire, many of them wanted more government involvement in facilitating access to the technologies. Everyone who participated in the personal interviews portion of the research had access to some of the ICTs (with some having access to all). They all were involved in varying degrees, either as public or private-sector functionaries, in the development of ICTs in the country. Thus they saw themselves as being the force behind, or primary agents of, the development and diffusion of ICTs in the country. This self-perception occurs outside the context of any articulation of ICTs as "foreign" technologies.

Common among the different groups of people interviewed was an understanding of ICT usage as a fact of life in Nigerian cities. This was especially so given the prevalence of "no-name" brands, generic locally assembled computers and other ICTs in the country. While the Nigerian computer market features the Compaqs, Dells, IBMs and Hewlett-Packards, there are enough brand-less systems to localize these technologies thereby stripping them of any foreign identity. Added to this is the fact that many of these computers become "tropicalized" when they arrive in Nigeria such that they are somewhat different from what their manufacturers sent out.[48] Also, many urban-dwelling

---

[48] Local technicians reset the way the technologies are powered to make them less vulnerable to the constant power fluctuations and outages, and climate.

Nigerians who have come to see the various ICTs as a way of life are mostly consumers of foreign products who have since become "blind" to the national origins of the products they consume.[49]

Another explanation for the absence of ideological attachments to ICTs in Nigeria is that use of certain technologies such as the computer was often associated with low-level personnel (mostly female) in the work environment (and computers, for example, did not become items for home use until recently). On the other hand, use of other ICTs such as the cell phone is more strongly associated with a certain internal socio-economic class rather than a foreign class or group.[50] The spread of the Internet and the popularization of its usage have occurred mostly through the cyber café environment where people of all socio-economic classes have access – obtaining services according to their ability to pay. This has also stripped the technology of any ideological content in the sense that those who have reasons to go to a cyber café already can afford the service and will tailor their needs – mostly simple e-mailing – to meet their resources at any given point.

But this area – prevalence of ICT usage at cyber cafés – showed an interesting development, albeit still embryonic. In the environment of the cyber café, people perceived their access to and use of these technologies as functions of either equality or entrance into a higher internally constituted socio-economic class. In the first place, given the cost of access to these technologies and the geographical locations, only the fairly wealthy and urban dwellers can use them. It was observed that this economic, social and geographical disparity may lead to new class cleavages though it is too early to know if the new class formation would break away with earlier indices of class such as education and property, reinforce them or create new ones.

---

[49] In many homes in cities such as Lagos and Abuja, a majority of household products such as common salt and cooking oil are imported from Europe and Southeast Asia.

[50] As a result of the geographically bounded nature of earlier generations of cellular phones, it was not common to find foreign visitors using them.

At one of the centres visited during the research, a middle-aged couple came in to send e-mail to their daughter in the United States. There was something about the comportment of the couple to indicate that the occasion was an important event. There was a sense of ceremony around them, starting with the clothes they wore (all dressed up) and spoke in a hushed and reverential tone to the receptionist at the centre. They had written up the message on a lined paper, which they held as if of great value. Their inability to use the technology or lack of access from their home did not appear to pose any obstacle in their perception of the momentousness of the event. Rather, they appeared to perceive their ability to pay for the service, and more importantly, their being the parents of someone who lives in the United States and has Internet access as setting them apart from "ordinary" people on the streets.

Among the "e-mail operators" themselves, their knowledge of the technologies set them above the level of those who came in to pay for their services. The relationship dynamics changed depending on the location of the cyber cafés and the class of the clientele. In one centre opposite the only university in the state, most of the clientele were university students and faculty. Their membership in the university community across the street defined the terms of the relationship between them and the staff. In some cases, this relationship was adversarial (like when the client refused to pay for services complaining about the slow technology or failure to complete the transaction) or servile/domineering (when the client was a professor). In bigger cities such as Lagos where the clients were more affluent and educated, they related to centre staff with the superiority that their socio-economic class privileges them in other situations. The reverence shown the client by centre staff was mediated by their knowledge that a "real Oga" was more likely to send out his/her personal assistant, secretary or messenger to do whatever needed to be done in a cyber café (such as e-mailing and web search) to avoid mingling too much with the masses.

In all these situations, there is an obvious consciousness of status (either as belonging to or intimidated by a higher class), but there is no connection between this new class of "e-mail people" with any ideologies that must have attended the technologies at the socio-political contexts of invention and production. In usage, the technologies have obviously acquired new locally generated ideologies. And these new ideologies might be in the process of forming a new upper class where access is not based on prior socio-economic status but determined by IT literacy, access, awareness or socio-economic connections that make usage a necessity. On the other hand, it could be (as has been argued by some information society theorists) that these technologies are reinforcing previous socio-economic class cleavages and will become tools for new forms of oppression and exclusion. For instance, income and educational levels and geographical residence (urban or rural) already define those with access to these technologies. In any event, it is too early to determine which of these ideological directions the emergence and diffusion of the technologies will take the Nigerian society – in class terms.

8:6:1 Ethnicity

One of the features of the information society (or capacities of ICTs) is the compression of time and space. Participants in the research spoke longingly about the ways in which ICTs would reduce their need to travel or physically conduct businesses. And given the poor state of roads in Nigeria, the spatio-temporal compression enabled by ICTs would benefit many. But when the argument about the collapse of time and space is extended, it appears that the effects in Nigeria will be contradictory. In the country, unity has historically been fragile and political actions are carefully managed (or manipulated in some cases) to avoid any hint of ethnic, regional or religious biases. In Nigeria, space is literally a contested terrain. There are constant ethnic and religious conflicts rooted in claims to space (or land). One comes from a specific, timeless and static "place of origin" regardless of place of birth or residence. For instance, a child born in Lagos to parents who were born in Owerri will never be a Lagosian (belonging to the Yoruba ethnic group) even if he or she spends the rest of his or her life in Lagos and has never lived in Owerri. This individual will always be identified with Owerri (forever designated as Igbo) and will engage with the political and socio-economic life of Lagos as an Igbo – and therefore a "non-indigene."

Employment, university admissions, political appointments and other types of political patronage are made on the basis of "state of origin." Thus the current federal government in Nigeria has 36 members in the federal cabinet – each representing the 36 states of the federation, to reflect ethnic balance. Overarching these issues is the Federal Character principle, which essentially refers to a deliberate attempt to reflect the diversity of the country in political appointments and employment in federal government departments. The principle was adopted as a post-war national policy by the government of General Yakubu Gowon in 1973, essentially to assuage feelings of marginalization in a country of many previously independent and distinct nations. While this principle has not reduced the spate of ethnic and religious crises in the country, its existence ostensibly mitigates many conflicts by reducing the perceptions of marginalization. This basic need to forge unity in a country where the different ethnic groups would rather split and go their different ways seems diametrically opposed to some fundamental features of the information society such as integration and break down in spatial boundaries and equality.

But some have argued that the diffusion of ICTs and the shift from a resource-based economy to a digital economy will positively rearrange the country's geopolitical configurations. According to Nosa Omoigui:

> … Given our history of ethnic fissures and mistrust, the Information Age would have major geopolitical implications on Nigeria. I predict that in the 21st century, intellectual capital, not mineral resources like oil, would be the most strategic and

> valuable global resource. The impact of this phenomenon on Nigeria cannot be overestimated. It suggests that as time goes on, a country's geographic placement and mineral resource endowments would take on less and less significance. In contrast, the skill-level and educational competence of its workforce would become the primary determinants of economic prominence.[51]

In Nigeria, resource allocation has always been a politically divisive issue. As indicated in Chapter 3, the country is endowed with lots of mineral resources, the main one being oil. Also, because of the climatic diversity of the country that occupies 923,800 square kilometres, some food/cash crops are well suited for some parts of the country than others. In the days before oil became a major economic resource, some of the country's main exports were groundnuts, palm oil and cocoa – cash crops grown in the northern, eastern and western regions of the country, respectively. At the time, each regional government had control over the revenue derived from its resources without much interference from the federal government. However, after the discovery of oil and its ascendance to the status of Nigeria's primary export, the federal government assumed control of all natural resources, and managed the allocation of revenue derived from them.

> In the 1960s, derivation formula to the regions, especially when the majority tribes provided most of the nation's wealth was fifty per cent … With the advent of oil and gas, and the minorities providing over ninety per cent of the nation's wealth, the majority controlled federal government gave less than thirteen per cent to the states. Only recently, on the exit of the military was it raised on paper to thirteen per cent.[52]

---

[51] Omoigui, Nosa, "The Information Age as a Key to Nigeria's Renaissance: Opportunities, Risks and Geopolitical Implications," Available at: http://www.nigerianscholars.africanqueen.com/opinion/NosaTech.htm

[52] Ifodoe, David, "President Obasanjo would do well by signing the Abrogation Bill into Law," in *Vanguard*, Friday, December 20, 2002. Accessed on December 27 at: http://www.vanguardngr.com/articles/2002/viewpoints/vp220122002.html

Over the years, this has led to accusation of marginalization especially by the oil producing states of the southern Niger Delta region whose people have often felt that their resources are being used for the development of the north – a non-oil producing region. The frustrations of the people of the Niger Delta derive not only from the fact that they have no control over their natural resources, but also that the are suffering from the unmitigated effects of oil exploration activities on their land and waters. These activities have over the years rendered much of this area useless for other forms of economic activity. For instance, many in the Niger Delta region who are mostly fisher folks depend on the seas and rivers for their livelihood. But as a result of oil spills, the rivers no longer support marine life. And on the land, oil spills and gas flares have also destroyed cultivable land.

> The intensified activities of oil prospecting companies … adversely affected farming and fishing, the predominant occupation of the people of the region. Incessant oil spillages and years of gas flaring impacted negatively on the environment, thereby making the inhabitants to demand for remediation and prevention strategies to resuscitate the rich ecosystems of the Niger Delta.[53]

Another critic notes:

> In the Niger Delta … aquatic life is destroyed, waters are made waste by oil spillage that people cannot afford any drinking water. There are no roads, the terrain is harsh and the people live below the average Nigerian poverty line. That they are today militant in their approaches is derived from the state of affairs they have found themselves.[54]

---

[53] "Niger Delta Development Commission: Historical Background," available at http://www.nddconline.org/history.shtml

[54] Nwankwo, Tony, "Dichotomy Bill and the Conference Question," in *Vanguard,* Sunday, December 22, 2002. Accessed on December 27 at: http://www.vanguardngr.com/articles/2002/viewpoints/vp322122002.html

The geopolitics of oil in Nigeria, the subject of much scholarly research and writing, peaked during the Abacha years with the state execution of the famous Ogoni Nine – environmental activists from Ogoni, an oil producing area in Rivers State. The killing of the Ogoni Nine (which included international author and playwright, Ken Saro-Wiwa) led to the expulsion of Nigeria from the Commonwealth and other sanctions by countries such as Canada and the United States against Nigeria.

8:6:2 Ethnic detours

When the Obasanjo Administration assumed power in 1999, two measures were introduced to address the sense of marginalization expressed by people in oil-producing areas. The Niger Delta Development Commission (NNDC) was a program aimed at dealing "urgently and fundamentally with the developmental needs of the Niger Delta and bring sustainable prosperity and peace to the area … and sustainable development" to the region.[55] Also, the federal revenue allocation formula was rearranged so that three percent of revenues went to oil producing states – in addition to their regular revenue. However, as in many projects that the administration began with (such as PAP), these initiatives failed to achieve their objectives – even though for about two years, oil-producing states were receiving 13% more than other states from the federal purse. But it is not apparent that the NNDC has achieved its goal of helping in the development of the oil-producing states, or that the extra money was spent on the projects that met the needs of the majority of the people in the oil-producing areas. Also, in 2002, the derivative revenue was suspended following a Supreme Court ruling on a different but related case.

---

[55] "Niger Delta Development Commission: Historical Background," available at http://www.nddconline.org/history.shtml

ICT enthusiasts such as Omoigui (referred to above) believe that the politics of ethnicity and resources will become less important in a digital economy. In the new economy, commodity of value will no longer be geographically based but virtual and "brain power" will signal the difference between those who succeed and those who do not. Similarly, access to the seaport – as in many southern states – will not be significant in determining the economic prowess of each of the regions in the country. For instance, Lagos has always had a developmental advantage because of the presence of Nigeria's two major and busiest seaports (Tin Can and Apapa) on its coastal line. But in the new economy, it would no longer matter, the argument goes, and therefore ethnicity, often constructed around place of origin, will not hinder the application of ICTs toward developmental objectives.

> Proximity to the Atlantic - access to seaports -- would no longer be an assurance of commercial power. The new seaport of the 21st century would be the handheld device, the personal computer, the television. Arguably, the primary export would be brainpower and locally authored software services hosted on web-sites. The ports from which these products would get dispatched would be Internet access nodes. Fiber-optic lines and the airwaves would complement the oceans as the primary conduits of international trade.[56]

Indeed, Esther Gunda, deputy director and head of the technical services division in the Ministry of Communication, believes that ICTs – at least their utility as communication tools – can build understanding and unity in the country in ways that conform with the notions of the information society as a space in which everyone has access to the same information and knowledge.

---

[56] Omoigui, Nosa, "The Information Age as a Key to Nigeria's Renaissance: Opportunities, Risks and Geopolitical Implications," Available at: http://www.nigerianscholars.africanqueen.com/opinion/NosaTech.htm

> It's (all about) communication and if you are able to communicate effectively with each other, it will help you know what is happening. A lot of our problems come from not knowing and a lot of suspicion we have of one another. … For instance, I spoke with someone from Bauchi who comes from a rural community (that is) trying to have a telecentre. One of the (motivations for setting up the centre) was that in the last (ethnic) riot in Lagos (between some Hausa and Yoruba groups), it was difficult for them to really know what was happening. The (people of the Bauchi rural community were) just depending on rumours and you cannot depend on rumours to really know if your people are really being killed. So if there's free information flow, it will defuse some of these tensions that we have and we'll really know what is happening.[57]

It is still too early to assess the possibility that building an information society in Nigeria will defuse any tension in the country. Indeed, it is feared that the opportunities for communication and dissemination of information may just be another tool in the hands of those who use religion and ethnicity to achieve personal and political goals in the country.[58]

The policies on ICTs make no reference to the ways in which ethnicity might hinder the development and diffusion of these technologies. There is an implicit acknowledgement that economic factors will overcome whatever challenges ethnicity might pose. At the level of policy implementation, pursuance of the "federal character" principle in allocation of resources is likely to mediate potential areas of conflict. For instance, the country is divided into 774 local government areas, 36 states (and Abuja) and six geo-political zones, with six zonal headquarters. Resources are allocated on the basis of local government area, state or zone depending on their abundance or scarcity. For example, NITDA, as mandated by the policy on information technology, will establish a local information infrastructure in the 774 local government areas, a state information infrastructure in the 36 states and Abuja, a national information infrastructure, and six science parks in the six geopolitical zones. Perhaps this arrangement will not completely eliminate areas of ethnic conflict when it comes to the appointment of personnel to the structures. Again, it is too early to draw conclusions. This is an area that one needs to revisit in the future to investigate if ethnicity in a country as multiethnic and often divided as Nigeria will play any significant role in the development and diffusion of ICTs.

---

[57] Gunda, Esther, personal interview in Abuja, October 2001

[58] In many parts of the country, the *talakawas* (Hausa for the masses) in the North, "area boys" in the West and "Bakassi boys" in the East are paid by politicians (in military and civilian clothes) to foment violence as ways of achieving their political and often personal goals.

8:7 Section summary

Generally, many Nigerians do acknowledge that there are many potholes such as the state of the infrastructure on the country's access route to the information superhighway. There is, however, overwhelming optimism among those interviewed that the detours and other improvisations will lead to a successful completion of the journey to the global network society. Thus, many of those interviewed were positive that by 2005, the Nigerian ICT landscape would be drastically different from what it was in 2001. Ekuwem said that in the near future all the local government areas in the country would have access to the Internet because of the number of applications for licenses to provide telecommunications services pending at the NCC. "And the NCC is giving a lot of priority to those wanting to go to the rural areas … The moment you put a BBB or VSAT node in Abak (a local government area), with VOIP (Voice Over Internet Protocol), a gateway interface with the public telephone network of Nitel or a PTO …" [59] the technologies will multiply with usage and spin off other applications and economic activities.

Ndukwe of the NCC went as far as predicting that "a year from today one will not even recognize the Nigerian telecommunications landscape."[60] He pointed to emerging developments in the sector such as the entrepreneurial spirit of Nigerians who are jumping in following the lure of the enormous earning capacity of those already in the sector.

> We are targeting that Nigeria will be one of the foremost IT-led countries in Africa. We will have a large population with a lot of telephone lines. For instance, today, South Africa is at the forefront at least in areas like mobile, Internet and fixed lines. We think that in five years time Nigeria will be a very close second if not overtake South Africa in that area. That is my prediction for the future.[61]

These optimistic remarks are undoubtedly well founded. At the policy level, it would appear that the appropriate institutional framework has been developed through the formulation of policies and establishment of implementing agencies, and the proposed bill to set out legal guiding principles for the sector. But interviewees' optimism probably greatly underestimated the depth of the potholes on Nigeria's access route to the information superhighway, as observed during the research. For instance, as Titi Omo-Ettu declares: "E-business thrives on law; e-commerce on trust." It will take more than official policies and time to establish trust between Nigerians and between them and foreigners wishing to do legitimate online transactions in the country. For starters, it will be extremely difficult for Nigerians to "buy and sell on the Internet" without the availability of trusted instruments for non-cash transactions that have built-in mechanisms to protect parties to the transaction from fraudulent practices.

---

[59] Ekuwem, Emmanuel, in a personal interview in Lagos, November 2001

[60] Ndukwe, Ernest, in a personal interview in Abuja, October 2001

[61] Ibid.

In another area, the various measures to ease the public power supply problem have generally worked for those who can afford power generating sets and UPS. But these private solutions are obviously very temporary and geographically limiting. As indicated earlier, 60% of the Nigerian population lack access to electricity. The use of UPS and generators presupposes an occasional presence of public power supply. Even then, the use of generators is not sustainable for business purposes because of the cost of fuelling and maintaining them. This is why those who use them privately turn on their generating sets only at nights or for special occasions. In the rural areas where public power supply is non-existent, those who can afford generators use them only at night or during important events – such as weddings and funerals. Thus, the success of the diffusion of ICTs and their usage as tools for socio-economic development cannot be achieved through private provision of electricity. Until the general power supply is stabilized, as well as expanded to the rural areas, electricity is likely to remain a key hindering factor in the development and diffusion of ICTs in Nigeria.

In conclusion, one argues that while great strides have been made particularly in the area of mobile telephony and local improvisations in the two years since the policy on telecommunications was released, the journey ahead is as difficult and the terrain as treacherous as what prevails on physical roads in Nigeria. Often, at the onset of the rainy season, public works departments fill over the potholes with gravels. At a more extensive level, government contracts are awarded for road repairs and constructions only for the contractors to compound the problems by littering the roads with mounds of laterite, gravels, sand and construction equipment which remain just long enough for the contractors to be paid their money. Further work is abandoned and the roads are left in a worse state than before. Also, on many roads in southern Nigeria, it is common to find young jobless men digging up sand from the roadside to cover the potholes, giving a false sense of repair. For their efforts, they stop motorists to demand tips. It usually takes one downpour to wash out all these surface measures.

The state of the physical roads in Nigeria requires fundamental and structural solutions that can survive seasons and political leaderships. Similarly, the Nigerian axis of the information superhighway requires sustainable solutions – at least in as much as the people and government of Nigeria plan to harness ICTs as tools for socio-economic development. Detours and surface measures may serve for a season, but the ICT-for-development project is billed as a long-term one.

8:8 Prospects of ICTs for socio-economic development in Nigeria

I began this chapter by examining some of the problems that are likely to hinder the actualization of ICT-centred objectives in Nigeria. This follows the discussion in the last chapter on the connections that have been made by stakeholders in the Nigerian ICT industry between ICTs and socio-economic development. In that chapter, I had argued that there are a lot of myths surrounding the narratives on ICTs and developments, and as myths, they conceal more than they reveal. In this chapter, an attempt was therefore made to reveal some of the realties about the state of ICTs in Nigeria and the interconnections between these technologies with some of the factors that had contributed to the failure of earlier development objectives in the country. But this chapter has not been simply a review of the problems (or potholes) that stand in the way of Nigeria's journey to the information society. I have also discussed some of the measures (or detours) that government and non-government actors have taken to deal with the problems. Some of these measures have succeeded in varying degrees (for instance, the diffusion of mobile phones have increased teledensity in the country) while other detours have so far only led to dead ends.

Despite the complexities of the ICT-for-development project, one argues in this second half of the chapter that it is possible to utilize ICTs to achieve development objectives because either as ends or means of development, the diffusion of the technologies can have some positive impact on the Nigerian society. But to succeed, ICTs need to be integrated with other strategies of development in ways that solve and transcend the problems that have historically hindered development projects in Nigeria. In the next section, I discuss two approaches to an understanding of ICTs as tools that could benefit the wider society. These are: a conceptualization of ICTs as ends themselves (indices and objectives of development), and ICTs as means toward the achievement of other development goals. The discussion is framed by the analytical framework of indicators of development outlined by Howkins and Valantin (1997). Relevant to the present discussion are the indicators of literacy, education, and skills; and income and economic welfare (Howkins and Valantin, 1997: 9-10).[62] One attempts to show the practical ways in which ICTs can be used to promote these indicators of development. The areas chosen for examination here also coincide with the priorities of the Obasanjo Administration, particularly as expressed in the National Economic Policy of 1999 to 2003 (as discussed in Chapter 3).

8:8:1 ICTs as indices and objectives of development

The development and usage of ICTs as means or indices of development projects is most visible in the area of communication. ICTs facilitate easier and cheaper communication either at the individual or corporate level. The importance of communication cannot therefore be stressed enough especially for a country such as Nigeria where about 65% of the population live in rural areas and the state of the roads and public transportation are deplorable, to say the least. Indeed, ability to communicate is a basic human need and history of humanity is replete with the various ways through which people communicated with each other. In Nigeria, means of communication have included the use of a town crier who mass-communicated public information through the use of a wooden or iron gong or drum. Market places, wells and streams/rivers, the town hall and other public meeting places presented (and still do) tools or avenues for people to communicate with each other or pass on information to a wider audience. Often in many Nigerian villages (particularly those in the south-eastern part of the country who have regular market days), people would wait until the next market day to communicate with and exchange information (regardless of its urgency and importance) with someone or group of people.[63]

---

[62] There is more of this discussion in Chapter 2.

In more contemporary Nigeria, communication with family members and friends scattered in various parts of the country takes many forms – the basic being letter-writing, which often takes up to two weeks to travel from one part of the country to the other. One can also make a telephone call, but since the land-line telephone grid does not reach the rural areas, a rural dweller may have to travel upwards of 100 kilometres to the nearest telephone exchange to call someone living in another part of the country. It goes without saying that the faster and more efficient the means of communication are, the better for people's needs to communicate. It is in this context that many scholars have argued that even if ICTs do not *directly* lead to socio-economic development, their availability in any society is an indicator of development by itself.

---

[63] Many parts of southeastern Nigeria have eight market days in each cycle (loosely, equivalent of one week on the Western time cycle). A new cycle begins with the first day of the market day, and a different major market square or place is used on each market day. The marketplace is not just an economic forum but played important social and political role in the lives of community members. Often people would go to the market not to sell or buy but because it is the only place to connect with friends and relatives who live in other communities.

For instance, Stover (1984) argues that the presence of high levels of communication gadgets can be seen as indicator of the level of development in any society. That is, it is possible to differentiate a developed country from an underdeveloped one by simply looking at the number of western-type ICT gadgets that each country has. He presents a comparative analysis of the penetration of mass media gadgets in some countries and their levels of economic growth, and concludes that "poor countries have fewer means of communication than rich ones, and the lack of information correlates with a low level of development." (p.8) Admittedly, Stover does not critically analyze his data to explain the causality between the level of development and the presence of mass media gadgets. Thus the question remains unanswered: did the countries in his study have many communication gadgets because they are developed and can afford them, or they developed because they had communication gadgets prior to achieving the level of development? Whatever the correlation, evidence indicates that many developed countries have deeper levels of ICT penetration than less developed or developing countries. In the statistics generated by the global regulator and monitor of communication standards, the International Telecommunications Union (ITU), countries with the least ICT penetration levels also fall within the categories of least-developed or developing countries in economic rankings by organizations such as the World Bank.

And according to Weatherby, et al (2000) a major feature of developing countries is poor quality of the communication infrastructure which they describe as a crucial component of "modernization." They argue that, "Other World peoples have little access to telephones, publications, television, and the Internet" and this low level of access characterizes less developed countries. (2000:12) Thus, the development of ICTs can be end-goals (or the objectives of development efforts) rather than as means to the achievement of other development goals. The argument is that if ICTs ultimately do not deliver on the promises attached to their capacities to help countries such as Nigeria to leapfrog to industrialization, it will not hurt the people if the government continued its current prioritization of the development of ICTs in the country.

8:8:2 ICTs as tools of development or means to other development goals

While ICTs can be development objectives, they can also, if properly utilized, serve as tools for achieving other development goals, either directly or serendipitously. For instance, if the state or any other organization sets up a telecentre (a community telecommunications centre with access to the Internet) in a rural community it would necessarily have to provide the enabling infrastructure such as electricity and telephony (either through satellite or land-line technology). The availability of electricity will spin off other economic activities including those as basic as trading. Some people might decide to set up a kiosk or booth nearby and sell the kinds of small items found in a convenience store to patrons of the telecentre. The availability of electricity in the telecentre would provide storage for some perishable items and those – such as drinks –

that require refrigeration. Thus, even if it occurs only at the basic level, a telecentre in a village will not only facilitate communication and access to information, it can potentially also bring electricity into a community and it in turn would facilitate small scale enterprises. In passing, one notes that for rural telecentres to achieve the objectives of diffusing ICTs as development tools, they must be made available to community members at little or no charge. And the information must be relevant to the needs of the local people.

There are other socio-economic benefits that are likely to accrue from the development and diffusion of ICTs such that the technologies can facilitate the achievement of other socio-economic goals in ways that development (broadly defined) can reach a greater number of the people. In this section, I discuss three specific areas – access to information, education (long distance learning) and increased economic growth – that can be enhanced through appropriate use of ICTs.

Access to information: Access to information is as important as the ability to communicate, even though many assertions about the usefulness of ICT-mediated information often border on the wildly euphoric. For instance, in a United Nations Economic Commission for Africa (ECA) report on the harnessing of ICT for development, it is argued that "many of the gaps in development are caused simply by lack of information on what is possible, best practices and successful initiatives to replicate."[64] This was the basis of an action framework to build Africa's ICT adopted by an ECA conference of ministers in Addis Ababa in May 1996. It has undergirded many African governments' ICT-directed initiatives and programs such as the African Information Society Initiative (AISI) which proposes, among other things, the usage of ICTs as catalysts for development through the provision of topical information about research in health. Authors of the 1999 UNDP *Human Development Report* also suggest that "developing countries suffer many of the world's most virulent and infectious diseases and yet often have the least access to information for combating them."[65] The argument has also been made that ICTs are needed to translate research results into actual policies especially those related to development. As Bellman and Tindimubona argue, "The efficient and effective exchange of information among researchers, educators, administrators, industrialists and policymakers is crucial for the conversion of research results into useful products of economic and social value."[66]

Much has been made about the centrality of information in the development project in poor countries. But as argued earlier in this chapter (drawing from Balsamo, 1996), information sourced on the Internet and World Wide Web is not always "useful products of economic and social value." Indeed, contrary to the myths about "free" flow of information and availability, much useful information is proprietary and access comes at a high price. While "good" information can be mined from the Internet and the WWW, one has to go through a lot of morass to get at the gold. In determining the ways in which ICTs can facilitate access to information, policymakers need to know what kinds of information they are seeking and what is useful for the people. Of course, there is a risk of government using its machineries to control the flow of and access to information from abroad (such as already happening in China). The point here is not to give the state or other stakeholders the right to regulate information flow, but to raise a cautionary note on the narratives that posit that underdevelopment is "simply" a result of lack of information.

---

[64] Africa Policy Information Centre, "Africa on the Internet: Starting Points for Policy Information," 1996. Available at: http://www.africapolicy.org/bp/inet.html Accessed, July 4, 2000

[65] UNDP, *Human Development Report*, "New Technologies and the Global Race for Knowledge," (UNDP, 1999) Chapter 2, p.60

[66] Bellman, Beryl L. and Alex Tindimubona, "Global Networks and International Communications: AFRINET," paper presented at the 34th Annual Meeting of the African Studies Association, St. Louis, Missouri, November 23-26, 1991.

Not all kinds of information will be economically and socially useful for Nigerians, many of whom (at least the Internet-savvy) are already complaining of information overload. Access to certain information would actually have negative socio-economic impacts. An example of this can be seen in a situation where Nigerians, based on information obtained from the Internet, begin to charge online purchases to their credit cards (when the use of "plastics" become common in the country). Before long, they would become integrated in the "global debt society" which American capitalism breeds. With Nigerians' historical mania for imported consumer products, Internet would be a fertile ground for acts that adversely affect the capacity of Nigeria to be economically self-sufficient particularly if imported consumer products become cheaper than locally produced ones. This is an extreme scenario as the number of Nigerians who will have credit cards and access to the

Internet will never be enough to do much damage to the economy. However, the point has been made that uncritical assumptions about the benefits of access to information and information itself conceal the reality.

Besides, much information accessible on the Internet is generated from outside Nigeria. Indeed, as at 1990, about 90% of information on Africa came from external sources (UNDP, 1999). In Nigeria, as this study shows, a large percentage of the information that research participants valued was externally sourced, and mostly about events and people in other countries. This point in no way denies the possibility that access to information (as enabled by ICTs) has beneficial effects for people in many sectors of the economy. A prime example is the availability of academic journals on the Internet through databases such as the Academic Search Premier (a web-based searchable database of academic journals and newspapers), a useful tool for the student and researcher. Also, traders and farmers can obtain information on where to obtain products at the cheapest prices or best farm practices in other parts of the country. This can only occur when Nigerians stop being "downloaders" of information generated externally – as is currently the case – and begin to produce locally relevant content and upload to the Internet. Locally relevant information could be about the government, people, economy as well as the contents of many of the academic journals published in the country. Already, many Nigerian newspapers (particularly those based in Lagos) have websites where they shovel the editorial content of the print copy online. These newspapers have become useful resources particularly for Nigerians in the Diaspora, as well as those Nigerians living in the country who have access to the Internet. According to the ITU, the number of Internet hosts per 10,000 people in Nigeria was 0.07 in 2000 (as against 2.7 for Africa).[67] The numbers for 2001 and 2002 are not yet available but if there has been any upward change, it is doubtful that it is significant.

Education through long-distance learning: A common problem in many African countries is lack of access to education. In Nigeria, 66% of the population is illiterate (as defined by the United Nations to be people who cannot both read and write in any language). Efforts by many governments at universal education have been hindered mostly by lack of or mismanagement of resources. As a result of what Lipton (1976) refers to as "urban bias," many schools are located in urban areas. The few schools in rural areas lack basic facilities (in some places, children learn under trees because there are insufficient classrooms). Urban life offers many attractions such that many teachers prefer to teach in the cities. The consequence is that many of the schools in rural areas are just schools in names only. ICTs offer possibilities for children (and adults) in rural areas to access quality education without having to leave their villages – or need school buildings for that matter. In South Africa, there have been such long-distance learning programs, mostly as collaborative efforts between the local school authorities and schools in the United States.

---

[67] International Telecommunications Union (ITU), June 2002

It is however not enough to focus on long-distance learning without addressing the education infrastructure holistically. For instance, the standard of "village schools" can be raised with the provision of basic facilities such as school buildings and enough number of classrooms for the teeming school-aged population in the rural areas. Also, teachers can be attracted to rural schools through incentives such as comparatively better salary structure, job security and free or subsidized housing (with availability of basic amenities such as electricity and pipe-borne water). With these incentives, teaching in rural areas will no longer be the social and professional pariah that it now is. This is just one example of how the Nigerian government can fundamentally tackle the pothole of illiteracy through ICTs, while at same time expanding ICT usage by a more literate population. Needless to say, an educated population will stimulate growth in many sectors of national economy.

Reference has already been made to telecentres in rural communities. These are veritable avenues for long distance learning, particularly if they are incorporated as part of the country's education infrastructure to supplement actual classroom learning. Current narratives about how ICTs can enable long-distance learning assume that the students will bear the financial burden of such innovations. But for e-education to accomplish any results, access to the technologies that enable long-distance education should be free especially to students in rural areas. Failure to do this would render the technologies useful only to the children of the very wealthy – the same children whose parents are already sending them to computer schools in the cities. This will feed into current trend whereby the state selectively funds computer education for young people preparing the ground for the yawning digital divide of the future between those Nigerians from privileged urban families and those from poor (mostly) rural families.

A top official in the Ministry of Communication rejected the idea that the state should pay for basic IT training, as is the case in many other countries, arguing that when people make money as a result of such training, they would not "share" their profits with the government. In taking this position, the official was overlooking the fact that all economic activities at the individual level aggregate in national economic growth generally and specifically through income taxes.[68] Unfortunately, this position is shared by too many top-level decision makers in the country for one to dismiss it as one ignorant civil servant's position.

In Nigeria, there is a historical distinction between the public and private sector, rooting in earlier development plans that emphasized the role of the state as the main agent of development while the private sector was just that: private. In some Nigerian languages, a business person is known as "one who does business for himself/herself." In the popular discourse, the private sector before the 1980s was seen as places where people worked too hard for too little money and could be fired at the whim of the boss. On the other hand, the civil service (then and still the largest employer of labour in the country) was a place where people had job security, good salary, did little or no work and had ample time to "do business" (which often consisted of chasing supply contracts). This attitude changed during the 1980s when the civil service had (and still have) problems paying salaries and job security could no longer be guaranteed.

---

[68] In Nigeria, a lot of people in the private sector or informal economy do not pay taxes and there is no machinery in the country to enforce it. This is why it may not be immediately conceivable that an individual who sets up a business as a result of IT training paid for by the government eventually contributes economically to the society.

Within the context of ICT-for-development, the state acknowledges the role of the private sector (and ICT projects are planned and executed in collaboration with key private-sector interest groups and individuals). As the policy on ICT states, the development and utilization of the technologies to achieve economic goals will be private-sector driven. But old attitudes die hard and many public sector actors still see the private sector as "doing business for themselves" and pursue goals that are radically different from that of the public sector. Unless this attitude changes and public officials consider the education of Nigerians in IT as part of the overall development project, a situation will emerge in the nearest future where students of unity and private schools will receive IT training while those in the public and low-financed schools will graduate without any IT training. And yet, they will be expected to compete in the same employment market with the other group of students and contribute to the country's economic development. The growing income gap in the country is likely to get wider in an ICT-centred economic development model if access to and availability of the technologies are dependent on individual capacity to afford them. Such a discriminatory approach will lead to a highly skewed form of development and will further impede the development of the larger population, thus reinforcing greater concentration of wealth by creating a new form of illiteracy. A successful utilization of ICTs for education will be achieved mainly through a holistic approach that seeks to fundamentally improve the education infrastructure in the country.

Increased economic growth: The ICT industry has been the fastest growing sector in the global information economy. For instance, in 1999 alone, US$20-billion worth of transactions occurred on the Internet. With 300 million Internet users and 380,000 companies online in 2000, it was projected that Internet transactions (or e-business) would reach US$2.4 trillion in 2001 (UNDP, 2001). And according to an UNDP *Human Development Report* (1999):

> With the knowledge sector at the forefront of the global economic opportunity, getting into knowledge production can be a fast track to growth. By creating a basic capacity to operate imported technology, countries can progress, climbing the rungs of the ladder, by learning to duplicate, to adapt to their own needs and, finally, to innovate.[69]

ICTs are such new technologies that even poor countries can, theoretically, jump in and create niches for themselves. Some developing countries such as India are already doing this, and competing with industrial countries in the export of computer software. In the information economy, "comparative advantage is not a fixed given, but can be created."[70] ICT is a technology that spills over many sectors, and it has the potential to open up new opportunities for small players to enter the global market. At the micro level, activity in ICT creates a new knowledge-based industry as well as employment for many people. A high employment rate means increased incomes and savings, thus investments and growth in a country's economy. E-commerce (Internet-mediated trading) opens up new opportunities even for small players to enter the global market. As an official of the Estonian government is quoted as saying: “The Internet is the roof of small countries.”[71]

---

[69] UNDP, *Human Development Report*. (UNDP, 1999), p.60

[70] Ibid.

Given the potholes discussed earlier in this chapter, the prospects seem dim for countries such as Nigeria to successfully harness ICTs for real economic development. Still, they cannot disconnect from the process to avoid further marginalization and perpetual position on the peripheries of the global network society. Already, as the study indicates, ICT-centred businesses are springing up and providing employment, service and income for Nigerians. The small-scale entrepreneurs who are offering “IT solutions” are also providing jobs and there is the potential that their businesses will expand. Also, if the science parks which NITDA plans to set up come on stream, there are endless opportunities to generate economic growth through the development of ICT products and services. While Nigeria may lack a lot of things – capital and infrastructure – it has much in human resources, and with adequate training Nigerians can potentially use ICTs to achieve other national economic goals. As Omoigui argues:

> With the quality and volume of its brainpower, Nigeria can become globally competitive even with economic powerhouses like the United States and Japan. The country needs to manufacture and export intellectual capital in unseen quantities. The resources are there; they need to be directed, motivated, and exploited. Furthermore, locally authored software products, services, and content could, in the long-term, provide the country with another major source of export.[72]

---

[71] Ibid.

[72] Omoigui, Nosa, “The Information Age as a Key to Nigeria's Renaissance: Opportunities, Risks and Geopolitical Implications,” Available at: http://www.nigerianscholars.africanqueen.com/opinion/NosaTech.htm

One again, raises a note of caution about the perceived critical role of ICTs in development, even as one acknowledges the prospects that these technologies can be important tools in facilitating other economic activities. And even if ICTs cannot, by themselves lead to development, their usage and diffusion will lead to the development of Nigeria's communication infrastructure, undoubtedly one of the worst in the world, going by the rankings of ITU and the *Global Competitiveness Report*, 2001-2002. The ICT-for-development project will accomplish much if it is executed as a holistic approach to dealing with the problems of underdevelopment that have beset Nigeria since its beginning.

8:9 Conclusion

This chapter is a companion to the previous one by presenting the reality (as evidenced in the research) behind the myths and visions about the capacities of ICTs. It therefore required a discussion of the potholes that are likely to retard Nigeria's journey toward the information society, as well as the detours that Nigerians across the various sectors have taken to ensure a fairly smooth journey. Some of these detours have resulted in greater usage and diffusion of ICTs while others are just a mere papering over the wall. When surface solutions are applied to the potholes on the physical roads, they are quickly washed away by the first rains leaving behind the gaping holes that lay just below. Similarly, in the virtual superhighway, some of the measures that Nigerians have taken to deal with the constraints that hinder their journey to the information society are not sustainable and will thus scuttle many ICT-centred projects aimed at achieving socio-economic goals.

In the second part of the chapter, I argued that the diffusion of ICTs could, by itself, be an index of development (especially in facilitating communication) while resources are channelled into sectors that directly address the basic needs of the people. The technologies can also be applied as tools or means of pursuing development objectives. I then discussed three uses of ICTs in ways that the technologies can achieve socio-economic goals. These are: access to information, education through long-distance learning and increased economic growth. But of course, ICTs will not succeed even in these modest areas without adequate people-centred planning and a holistic approach. This approach requires the use of ICTs to facilitate other development projects without assuming that usage of the technologies themselves will automatically translate to socio-economic development. For instance, for e-education to succeed in raising an educated population (through ICTs), IT training must be incorporated in the country's education curriculum at all levels and made available to *all* students regardless of their socio-economic backgrounds or locality (urban or rural). This will reduce the yawning digital gap that will become evident in the next few years if the government continues to provide IT training for only a select class of the country's student population.

In the next chapter I conclude the analysis of this dissertation research with a review of the previous chapters and the implications of the research findings. I also examine the possible future scenarios for the ICT-for-development project in Nigeria, concluding with a discussion of areas for further research.

References

Africa Policy Information Centre, "Africa on the Internet: Starting Points for Policy Information,"1996. Available at: http://www.africapolicy.org/bp/inet.html Accessed, July 4, 2000

Balsamo, Anne, "Myths of Information: The Cultural Impact of New Information Technologies," *Technology Analysis and Strategic Management,* Volume 8, Number 3, 1996

Bellman, Beryl L. and Alex Tindimubona, "Global Networks and International Communications: AFRINET," paper presented at the 34th Annual Meeting of the African Studies Association, St. Louis, Missouri, November 23-26, 1991

Dearnley, James and John Feather, *The Wired World: An introduction to the theory and practice of the information society* (London, England: Library Association Publishing, 2001

Federal Republic of Nigeria, *National Information Technology Policy,* 2001

Howkins, John and Robert Valantin (eds.), *Development and the Information Age: Four Global Scenarios for the Future of Information and Communication Technology.* (Ottawa, Canada: IDRC/UNCSTD, 1997)

Ifodoe, David, "President Obasanjo would do well by signing the Abrogation Bill into Law," in *Vanguard,* Friday, December 20, 2002. Accessed on December 27 at: http://www.vanguardngr.com/articles/2002/viewpoints/vp220122002.html

Light, Jennifer S., "The Digital Landscape: New Space for Women?" in *Gender Place & Culture: A Journal of Feminist Geography,* Sept.95, Vol. 2 Issue 2, p.134.

Lipton, Michael, "Urban Bias and Inequality," excerpts from *Why People Stay Poor: A Study of Urban Bias in World Development* (1976) reprinted in Mitchell A. Seligson and John T Passé-Smith, eds., *Development and Underdevelopment: The Political Economy of Global Inequality,* 2nd edition. (London, UK: Lynne Rienner Publishers, Inc., 1998)

Montealegre, Ramiro, "A case for more case study research in the implementation of Information Technology in less-developed countries," in *Information Technology for Development,* 1999, Vol. 8, Issue 4

"Niger Delta Development Commission: Historical Background," available at http://www.nddconline.org/history.shtml

Nwankwo, Tony, "Dichotomy Bill and the Conference Question," in *Vanguard,* Sunday, December 22, 2002. Accessed on December 27 at: http://www.vanguardngr.com/articles/2002/viewpoints/vp322122002.html

Omoigui, Nosa, "The Information Age as a Key to Nigeria's Renaissance: Opportunities, Risks and Geopolitical Implications," Available at: http://www.nigerianscholars.africanqueen.com/opinion/NosaTech.htm

Spender, Dale "The Position of Women in Information Technology – or Who Got There First and with What Consequences?" in *Current Sociology* April 1997, Vol. 45(2)

Stover, William James, *Information Technology in the Third World: Can I.T. Lead to Humane National Development?* 1984, Boulder, Colorado: Westview Press/A Westview Replica Edition

United Nations Development Program, *Human Development Report*, 2001 and 1999

United Nations Economic Commission for Africa, *Economic Report on Africa 2002: Tracking Performance and Progress* (UNECA, 2002)

Van Zoonen, Liesbet, "Feminist Theory and Gender," in *Media, Culture and Society* (SAGE, London, Newbury Park and New Delhi) Vol. 14 (1992)

Weatherby, Joseph, *et al.*, *The Other World: Issues and Politics of the Developing World.* (Addison Wesley Longman, 2000, 4th edition)

World Bank, *World Development Indicators*, April 2002

World Economic Forum, *The Global Competitiveness Report, 2001-2002*. (Oxford University Press, 2002)

Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996)

References on the WWW

International Telecommunications Union (ITU) Report, June 2002, available at www.itu.int.org

National Orientation and Public Affairs: http://www.nopa.net/Office_Of_The_SSA/frame2.html

Universal Basic Education Programme (UBE) Basic Education Statistics 2001/2002, available at:
http://www.ube-nigeria.org/QuickLinks/NATIONAL_DATA_SUMMARY.htm

US Energy Information Administration, "Nigeria." Available at
http://www.eia.doe.gov/emeu/cabs/nigeria.html#ELEC

Chapter 9

Prospects for a Nigerian information society: Conclusion

9:1 Introduction

The discourse that links information and communication technologies (ICTs) with socio-economic development is a complex one. While the positions have been mostly extreme – for or against the proposition that ICTs will enable developing countries to leapfrog to industrialization – conclusions from various empirical studies indicate that the reality lies somewhere in the middle. Neither a dystopian/pessimistic position that focuses on the deleterious effects of ICTs nor the utopian/optimism that proposes ICTs as panacea helps to explain the ways that these technologies can give poor countries a comparative advantage in an increasingly globalized world. The debates are particularly complex in a country like Nigeria because of its unique development problems, though the Nigerian ICT industry is filled with mostly utopian narratives about the capacities of the technologies for socio-economic development. Research shows that these narratives are framed by myths and visions rather than the realities.

These are some of the issues examined in the last eight chapters and together they facilitate a response to the questions that structure this research. This concluding chapter, in which I attempt to connect the other chapters, is organized in seven sections including this introduction. In the next section, I review the research framing it around a summary of the chapters, followed in the third section by conclusions drawn from the research. I also directly address the research questions in this section. In the fourth section, I examine the possible future outcomes (or scenarios) of Nigeria's deployment of ICTs for socio-economic development. The implications of research findings for development studies are discussed in the fifth section. The sixth and seventh sections address areas for future research and summary of dissertation's main arguments, respectively.

9:2 Review of the research

Research objectives, questions and methodology: The ICT-for-development discourse has emerged in recent years following the global diffusion of new technologies of information and communication. But the discourse is mostly utopian and lacks much critical analysis of the process through which ICTs can be harnessed for socio-economic development. The paucity of critical analysis largely motivated this dissertation in which I have consistently argued that it is impossible to make a case for or against the utility of ICTs in the development process in poor countries without empirical evidence that shows a connection between ICTs and socio-economic development. The research also contributes a political science perspective to a field that is currently dominated by researchers from other disciplines. One admits that the disciplinary background of a researcher is not important, particularly in the field of ICTs which, by the very nature of the technologies and the issues they raise, requires a multi-disciplinary approach. Still, one notes that many of the issues of development, democracy and governance that the global diffusion of ICTs addresses have always been on the research agenda of political science generally and development studies specifically. Naturally, there is bound to be a gap in knowledge if political scientists are not more involved in the discourse and research on the implications of ICTs for many of the issues that make it to the agenda of political science research.

Nigeria was chosen as a country that has many of the features that characterize developing countries. And, like many developing countries, it is currently on the threshold of harnessing ICTs for socio-economic development. Its experience of the process can provide useful lessons for other countries at similar stages of development. The research is structured by one major question, from which four secondary questions emerge. The key research question is: How is Nigeria acquiring and utilizing ICTs as tools for socio-economic development? Some of the secondary questions centre on Nigeria's policies on ICTs and the factors that drive them, the status or penetration level of ICTs in Nigeria, the role of the various sectors in the harnessing of ICTs for development, an examination of the factors that have traditionally acted as impediments to previous development efforts in the country, and the ways that they are likely to impact (or be transformed) by the application of ICTs. Attempts to respond to these questions involved several months of research in three cities in Nigeria. Diverse research techniques such as questionnaire, personal interviews, content analysis and observation were used.

Background to the ICT-for-development discourse: Earlier linkages of ICTs with development informed many policies and strategies of development in Third World countries in the 1960s and 1970s. Many of these countries invested heavily in the importation of technologies of mass media and telecommunications. In Nigeria, a huge contract was awarded for the procurement of equipment for the development of the country's telecommunications infrastructure. It was however botched and it remains a major political controversy in the country today. (This point is discussed in Chapter 3.) While the linkages informed policy, they also featured in many theories of development, especially the modernization theory of information, communication and development. It was argued by scholars such as Lerner (1958) that diffusion of technologies of communication would lead to development because through these technologies, people in poor countries would have access to information from the developed world. Their exposure to this information was expected to change attitudes particularly those concerning savings and investments.

Lerner and others were right, but not in the ways that they had envisaged. As scholars from the post-colonial and post-development schools (such as Mazrui, 1986) have argued, modernization (borne on the airwaves of radio and television) succeeded in creating a people who consumed what they did not produce and produced what they did not consume. Knowledge about lifestyles in the developed world got many in the developing world hooked on to the importation of consumer products. Having the trappings of western lifestyle became an index of development (or modernization). As Yesufu (1996) has noted, the consumption patterns (and dependence on imports) among Nigerians presented a major problem of underdevelopment in the country. It still does, even now that ICTs have replaced radio and television as agents of cultural and economic change.

The classical modernization discourse of a previous era now structures the current debates about ICTs and development. And yet, as in the past, there are few critical studies that show the connections between ICTs and socio-economic development. In this dissertation, I have surveyed the theories of ICTs and development beginning from classical modernization theory. At the end of the discussion (in Chapter 2), I argued that there is yet to emerge a succinct theory of development *and* its connections with socio-economic development. Many of the theoretical assumptions are merely prescriptive, thus resulting in an uncritical crusade for the adoption of ICTs as tools for development in poor countries.

Given the absence of theory, I made a case for an integrated critical framework that draws from various existing theories. This melange of theory has the advantage of allowing the researcher to examine the application of ICTs for development objectives from a fundamentally structural and holistic perspective. This type of research facilitates an understanding of ICTs as integrated technologies, the application of which pervades all sectors of the society.

Nigeria and strategies of development: In Chapter 3, I reviewed the history of national development plans and strategies in Nigeria and came to three conclusions: the state in

Nigeria is central to development, ICTs had never featured as tools of developments in past development strategies, and current wave of ICT-for-development is not sustainable given the country's history of policy inconsistencies and discontinuity.

First, the state has always played a key role in development, using the plank of national development plans. These plans were programs of public expenditure and accompanying economic policies, targets and strategies for accomplishing them within defined time periods. The economic planning model adopted by Nigeria beginning from the first plan of economic development and welfare (1945-1956) was a mixed economy with the expectation of full participation of the state and private sector. But in the implementation of the various plans, the private sector was largely relegated to the background with the state entering into areas such as construction and transportation that were considered the terrains of private sector activity. It was not until the "lost decade" of the 1980s and the resurgence of neo-liberal economics (some would say, neo-colonialism) that the private sector was brought into the centre of development policies. When the Nigerian economy collapsed following the crash in the prices of oil and the attendant global debt crisis, the government accepted a structural adjustment program packaged by the International Monetary Fund (IMF). With an emphasis on de-regulation and trade liberalization, space was created for the private sector to become central to the development project, though the Nigerian state remains a major actor in development.

By the late 1990s, the development discourse had shifted emphasis to ICTs, resonating with the ICTs and development discourse of the 1960s. In Nigeria, the attention to ICTs was clearly a response to the global discourse linking the rise and diffusion of these technologies with an emerging new form of economic and social relations, otherwise known as the global information society. The role of the private sector in diffusing the technologies for development also became integrated in the ICT-for-development debates. Indeed, the Obasanjo Administration, early in its tenure, announced that the new Nigerian economy would be ICT-centred and private-sector driven. At the same time, the government was also planning to revive the economy as a means to alleviating mass poverty and illiteracy as well as create wealth – goals that are inherently different from those of the private sector. However, to mediate the excesses of the private sector, the state plans to function in a regulatory role and build "strategic partnerships" with the private sector to harmonize the various interests and thus work toward a common goal.

The overview of the history of development planning in Nigeria compels a second conclusion. ICTs barely featured in past development efforts even during the 1960s when the linkages between communications and development were prevalent in many scholarly and policy debates in the "development community" of the time. Where attention was paid to ICTs, it was only as a good telecommunications infrastructure indicated a certain level of development, and not as a necessary foundation for economic activities. In the current ICT-for-development discourse, the Obasanjo Administration has tagged on an emphasis on ICTs as important tools to achieve the country's development goals.

Finally, one concludes that given the way past development strategies were implemented, the ICT-for-development project is not sustainable in Nigeria for two main reasons. First, the excursion into the past shows that the same factors that hindered previous development efforts in the country are still prevalent even as ICTs are expected to solve these problems, which include incessant creation of states, culture of consumption and waste, rather than savings and investments; bribery, corruption and embezzlement of public funds; and insecurity of life and property. (Yesufu, 1996) Added to these are other factors such as the institutional and cultural frameworks, the state of the infrastructure, illiteracy and poverty, and ethnicity, referred to in this dissertation as the potholes on Nigeria's road to the information society. ICTs are expected to address these problems, but as has been argued (Chapter 8), they are also likely to be the impediments to the achievement of ICT-centred objectives.

Second, Nigerian development policies have constantly shifted in response to domestic and/or external factors thus creating discontinuities and distorted development. For instance, the wave of global welfarism shortly after World War II under-girded the Ten-Year Plan for Development and Welfare (1946-1956) through which the colonial government, for the first time, addressed the needs of the colonial people by executing projects on education, transportation and communications. Also, the Civil War not only interrupted the implementation of the First National Development Plan of 1962-1968, but informed the direction of the second plan (1970-1974), focusing on the economic and infrastructural reconstruction of a society torn apart by an ethnic-generated bloody war. While the different shifts from one plan to another were responses to current realities and perceived needs, they also created a discontinuity in priorities leading in many cases to abandonment of projects. The result is that the same problems – such as poverty and unemployment – that previous plans aimed at solving continue today, and constitute the content of current discourse on the linkages between ICTs and socio-economic development.

And given this history, it is more likely that after a few years, Nigeria will lose interest in ICTs and move on to whatever the global wave of the moment is. It is also likely that a new administration will emerge (either through the ballot or bullet) and identify new problems and seemingly new ways of dealing with them. While the solution to the problem of underdevelopment in Nigeria may not be obvious, it is clear that the development project will require more than following the trend or listening to the voices of the loudest to achieve a development that satisfies the needs of the majority of the population.

The policy framework: Meanwhile, the government has formulated and begun the implementation of policies and programs aimed at increasing the development and usage of ICTs, not only for their sakes, but as they contribute to economic growth. The two policies are the National Policy on Telecommunications (NPT) and the Nigerian Information Technology Policy (NPIT). The NPT is expected to guide the modernization and rapid expansion of the telecommunication networks and services in the country. These will "enhance national economic and social development (and as) a major means of integrating Nigeria into the globalized telecommunication environment."[1] The NPIT, on the other hand, is primarily aimed at making Nigeria, an "IT capable country in Africa and a key player in the Information Society by the year 2005, using IT as the engine for sustainable development and global competitiveness."[2]

The implementing agencies for each policy, had as at the end of 2001, set out to meet policies' respective targets. The Nigerian Communications Commission (NCC), which implements the NPT, early in 2001 auctioned off four licences to private telecommunications operators to deliver mobile telephony using the global system of mobile communications (GSM) technology. By August 2001, two of the companies had rolled out their services and by the end of the year, had recorded about 300,000 subscribers. It was estimated that the number had reached one million at the end of 2002. This was clearly a major achievement of the NPT, but prior to the GSM phone service rollout, Nigeria's telecommunications landscape was changing, albeit slowly. For instance, the NCC, as mandated by Decree 74 of 1992, had begun the de-regulation and privatization of the telecommunications and broadcast industry in Nigeria. Toward the end of the 1990s, there were, for the first time in Nigeria, privately owned and operated radio and television stations, as well as private telecommunications operators (PTOs) who partially broke the monopoly of the national carrier, Nigerian Telecommunications

---

[1] Aragba-Akpore, Sonny, "NITEL, MTS may be favored for mobile phone permits" in The Guardian Online – http://www.ngrguardiannews.com Accessed Feb. 22, 2000

[2] Federal Republic of Nigeria, "Vision Statement," *National Policy on Information Technology*, 2001, p.iii

Limited (Nitel). The National Information Technology Development Agency (NITDA), which implements the NPIT, had also started work by the middle of 2001. At the time of the research, the agency had been operational for just six months and was just getting its corporate offices in Abuja set up.

While Nigeria's telecommunications had stagnated for years even with the efforts of the PTOs after deregulation, it took the action of the state – through the NPT – to accelerate the pace of growth. Also, the promulgation of the NPIT brought the state into the centre of the ICT industry, which had been previously dominated by the private sector. Though the state was a late entrant into the game, its actions transformed the industry by signalling to Nigerians the importance that it attached to ICTs and their utility as tools for socio-economic development in the country. The entrance of the state into and the consequent exponential growth of the ICT industry particularly between 2000 and 2002 reinforce the developmental role of the Nigerian state.

The formulation of policies to provide direction for the ICT sector has been a positive development, but the policies themselves have three structural problems, the major one being the role of the private and public sectors. While the policies clearly allocate roles to the different actors, the lines seem blurred at the level of implementation and one argues that this will have implications for the attainment of the country's overall national economic goals through ICTs. Secondly, the NPT provides a narrow understanding of telecommunications as telephony, specifically, mobile telephony, which explains the emphasis on developing this sector. The implementing agency has spent enormous resources on mobile telephony, which for economic and geographic reasons is concentrated in a few places (namely, urban, comparatively highly developed and populated parts of the country). In a country where as many as 65% of its population lives in the rural areas, it would seem obvious that rural telephony (a project that had been started and abandoned in 2000) should receive top priority if telecommunication is at all critical in the country's development project.

The NPIT suffers from the kind of sloganeering that accompanied earlier strategies of development, and gives itself a task that is impossible to achieve. Through the policy, the state plans to be globally competitive and to harness ICTs for the creation of wealth, economic growth and poverty alleviation. Yet, its strategies for achieving this fall far short. As noted in Chapter 4, under the sector on human resource development, one of the policy's strategies for developing globally competitive quality manpower in IT and related disciplines is to establish "facilities for electronic distance learning networks and ensure effective Internet connectivity, which will provide opportunities for educationally disadvantaged areas to educationally leapfrog into the modern era."[3] And yet its methods for accomplishing these ambitious goals will only succeed in making the technologies available to a few people – those who already have other ways of obtaining formal education. Meanwhile, majority of those who live in "educationally disadvantaged areas" will continue to languish in society's margins, untouched by the feverish activities to apply ICTs in their names. One is here referring to the 65% who live in the rural areas of a country where only 40% of the population have access to power supply – and that at a very irregular rate.

---

[3] Federal Republic of Nigeria *National Policy on Information Technology*, 2001, p.1

In the policies on telecommunications and information technology, there does not seem to be any acknowledgement of the state of the general infrastructure with which ICTs are expected to operate. Meanwhile, there is an assumption that the provision of ICTs – regardless of their geographical dispersion – is enough to achieve national economic goals. There is therefore a wide gap between the lofty goals of the policies on ICTs and the modest strategies aimed at achieving them. It would seem that the dream has outrun the reality, and visions the practice.

As noted earlier, the policies give too much role to the private sector with state agents seeming to think that the interests of the private sector converge with theirs and together national economic goals will be achieved. Given the failure of many state enterprises in the country, one cannot argue for the centrality of the state in any development project. At the same time, the state in a country such as Nigeria has a great responsibility to the people and this cannot be shifted to the private sector whose interests are drastically different.

Finally, for policies that assume to guide socio-economic development, half of the population is left out of their formulation and implementation strategies. The policies are presented as if women are invisible and inactive in the process of development. Thus formulators of the policies repeat the mistakes of past development strategies in ignoring the throng of women whose activities – as traders, growers of food and producers of small crafts – make the Nigerian informal economy one of the most vibrant in the West African economic region. Also as the UN secretary-general, Kofi Annan has said:

> Study after study has shown that there is no effective development strategy in which women do not play a central role. When women are fully involved, the benefits can be seen immediately: families are healthier; they are better fed; their income, savings and reinvestment go up. And what is true of families is true of communities and, eventually, of whole countries.[4]

The exclusion of women and the expansion of the role of the private sector question the prospects that the current promotion of ICTs as tools for socio-economic development will achieve its lofty goals.

ICTs in practice – the public sector: During the research, one set out to address the secondary questions, one of which focused on the status or penetration of ICTs in Nigeria. This was done through the examination of ICT usage in seven government departments and agencies, as well as interviews with some public-sector officials. A questionnaire was also administered to 306 fresh college graduates to get a sense of their awareness and usage of ICTs.

---

[4] Annan, Kofi, "In Africa, AIDS Has a Woman's Face," The *New York Times*, Dec. 29, 2002. http://www.nytimes.com/2002/12/29/opinion/29ANNA.html

Analysis of the data from the government departments shows that while the various ICTs are being used for various purposes, the technologies are yet to pervade work practices in Nigeria's public sector. ICT usage is at the conventional level with many using their computers for basic word processing. In many cases, senior officials do not use any ICTs but have their personal staff do their ICT-related work, such as word processing and dialling a telephone number. Many public officials actually take pride in their ignorance of ICTs and make comments that imply that the technologies are for junior-level people and children. The lofty goals of the policies on ICTs are therefore yet to be translated into actual practice by public officials in ways that directly address socio-economic problems. There is therefore a significant disconnection between policy intentions and practice given the low level of ICT usage and penetration in key public-sector departments.

This low level of ICT usage and penetration in the public sector is conversely proportional to the euphoric claims of public officials and policymakers who see the technologies as the panacea for the country's economic problems. That is, while many senior officers in the government have no access to the technologies (given the low penetration level) and those who do furnish their desks with them, in public forums, they extol the benefits of these technologies and the need for Nigerians to be IT literate and government's intentions to use ICTs for economic development and global competitiveness.

ICTs in practice – the societal context: Analysis of the questionnaire interviewer-administered to 306 fresh college graduates (those who have completed at least four years of post-secondary education) in three Nigerian cities – Abuja, Lagos, and Port Harcourt – generated some conclusions.

First, there is a *relatively* high level of awareness and usage of ICTs by research participants with telephone conversation and e-mailing being the most common form of ICT activity. The research however showed that a significant number of respondents were not familiar with the different types of ICTs or the terminologies for them. For instance, not many made the distinction between e-mail, Internet and the World Wide Web. While some thought they all meant the same thing, others failed to note the connections between them. And it was not surprising therefore when majority of respondents identified the need for increased awareness as one of the conditions that will facilitate the development and diffusion of ICTs in the country.

Second, as with some of the public sector officials interviewed, the *generally* low level of ICT usage and awareness did not restrain questionnaire respondents from their high expectations and attitudes toward ICTs. A large majority of the respondents were positive that ICTs would facilitate employment, communication and information. These expectations seemed to directly touch on the needs of the respondents with employment ranking top on the list. The respondents, drawn from the National Youth Service Corps, were doing the mandatory one-year national service that follows right after completion of a four-year post-secondary education in the country. Given the high rates of unemployment in the country, many corps members were naturally concerned about their future in the job market on the completion of their service year – just six months away from the time of the research.

Respondents also expressed the hope that ICTs would facilitate personal communication and access to information. One highlights the point that many respondents saw their communication needs as being mostly personal. This was reflected in their current ICT usage with "personal" being given as the purpose for majority of the last phone calls, e-mails and computer usage respondents had made prior to their participation in the survey. Most ICT activities in any given month were also for personal reasons. As well, the information needs of respondents were expressed in terms of personal – such as seeking employment and education opportunities – while source and nature of information sought were external. Many respondents who used ICTs such as the Internet and WWW for information purposes were seeking information about events and opportunities in other countries. Generally, most respondents expected that ICTs would enhance their personal communication, as well as facilitate access to information from abroad.

Third, four major factors were identified as constraining respondents' wider usage of ICTs. These are what I have termed the 4As of ICTs in Nigeria: awareness, access and availability, and affordability. Responses to the questionnaire indicated a low awareness level of ICT issues among participants, who in turn called on the state and other actors to create awareness through massive publicity campaigns. Access was also a major concern with an insignificant percentage of the participants having direct access to the various technologies. For instance, just 36 respondents (or 17% of those who said they had used a computer at least once in the month prior to their participation in the research) owned a computer or lived in homes where they had access to one. Also, only 19 respondents had direct access to the Internet from home and 61 from work. Most ICT activities therefore occurred in cyber cafés – fee-based communication centres. The cost of accessing ICTs at cyber cafés naturally restricted the frequency of usage. Respondents believed that the government had a role to play in expanding access through subsidies on the cost of IT training and acquisition of the technologies. They also suggested that the government could set up telecentres – communication centres that are open to the public at no charge. The perception that it is the role of government (usually expressed by respondents as "they") to facilitate access to ICTs ties back to the point made earlier about the developmental nature of the Nigerian state. Whether it wants to or not, the state may have to play a more central role in the harnessing of ICTs for socio-economic development if policy goals are to be achieved.

Narratives of ICTs in Nigeria: Many respondents of the questionnaire portion of the research were expectant about the prospects for personal development that ICTs offer. At the same time, they were pessimistic about their abilities to take advantage of these technologies given the factors (of awareness, affordability and availability) that restrained their access to them. On the other side of the track were policymakers and key private sector actors who insisted that the ICT-for-development project is the path to the future and Nigeria would do well to jump on the train of progress. These actors espouse the benefits of ICTs in ways that sound like slogans and fairy tales straight from the land of ICT mythologies. To these people, there is nothing unwholesome about ICTs and there are no restrictions because the technologies present all countries and people with a level playing field to compete. Left out of the narratives from these quarters (whose voices are loud enough to influence public opinion) is any acknowledgement of the factors that are likely to slow down the journey to the future and into the global information society. While Nigeria's ICT utopians are in the small minority, they are representative of the culture (or change) elites that have dominated and driven the ICT-for-development discourse. Many of them are major actors in the formulation and implementation of policies on ICTs. Their opinions are therefore important and resonate loudly in the mass media thus giving the acquisition of ICTs for development a naturalness that rejects any critical analysis.

Potholes on the road to the information society: The reality is that they are many potholes (or obstacles) that will derail Nigeria's journey to the information society. These include: the state of the infrastructure, institutional and cultural frameworks, level of poverty and illiteracy and ethnicity. Measures (or detours) are being taken by the Obasanjo Administration to address these problems, particularly through the promulgation and implementation of policies on ICTs. These policies are yet to be integrated with overall development objectives in ways that would allow ICTs to solve and transcend the problems that impeded previous strategies of economic development in the country. But this does not mean that the ICT-for-development project should be abandoned. For it to achieve national objectives, however, a holistic approach must be adopted so that ICTs are not seen as ends themselves but means to development objectives. For instance, ICTs can be applied to education in ways that have spill-over effects to other areas such as the provision of infrastructure, namely electricity and pipe-borne water, the presence of which spin off other economic activities. ICTs *can* be useful tools for socio-economic development but only if they are properly applied and their benefits spread to the larger population rather than concentrate in a few hands and further perpetuate the existing wide income disparities in the country.

9:3 Conclusions from the research

This research was aimed at contributing to the ICT-for-development discourse with a qualitative and quantitative multi-level case study of how one country attempts to harness ICTs for socio-economic development. The findings and conclusions are summarized in this section, which for purposes of coherence and clarity, is organized around the secondary research questions, the totality of which answers the key research question: How is Nigeria acquiring and utilizing ICTs as tools for socio-economic development?

Secondary question 1: What is Nigeria's policy on information and communication technologies, and what factors drive this policy? Are policymakers' conceptions of ICTs integrated with the country's overall economic goals?

In 2000 and 2001, the Nigerian government promulgated two policies to guide and regulate the development of ICTs in the country. The two policies, discussed above, are clearly driven by market forces, specifically the interests of private-sector actors, many of whom were integral to the policymaking process. In fact, the discussions leading to the draft NPIT policy started out as private-sector initiatives. The boards of the implementing agencies of the two policies also have representatives from various private-sector interest groups and organizations who continue to pressure the government to stay out of the ICT industry. The argument is that only the private sector can ensure the development and sustainability of interest in ICTs.

The policies also state that the development of ICTs will be private-sector driven even as their primary objectives include facilitating the harnessing of the technologies for socio-economic development. There is an obvious contradiction in the policies as regards the role of the state. On one hand, the state is expected to execute projects that directly address the needs of the people. And the Obasanjo Administration believes that ICTs can be harnessed as tools to meet this objective. On the other hand, the development and usage of these technologies are expected to be private-sector driven with the state merely standing back as a regulator. The underlying assumption is that the state and private sector share the same interests and are both pursuing the same goals of national development. This contradiction manifests in the lack of coordination between ICT policies and other national policies, namely the education policy. There is a perception that ICTs would by themselves lead to economic growth, even when developed and utilized by the private sector. This would explain the absence of any well-defined integration of ICT-related policies with policies in other sectors. In the interviews with public officials, there was an explicit expectation that ICTs can be used to stimulate other sectors of the economy, and yet policies in those sectors barely acknowledge the significance of ICTs in the attainment of their goals. In fact, many of the existing policies, such as the education policy, predate the ICT-for-development debates.

Secondary question 2: What is the status – or level of penetration – of ICTs in Nigeria?

In Chapter 6, I used the analytical framework developed by Wolcott, et al (1998) to determine pervasiveness, a dimension of the level of Internet diffusion and penetration. Based on available quantitative data from internal and external sources, Nigeria is on Level Two of the pervasiveness continuum.[5] This means that the technologies have been established but usage has not spread either intensively (concentration of usage) or extensively (geographic dispersion of usage). Even at this level (out of four levels), ICT usage is concentrated only in a few major state capitals such as Lagos, Port Harcourt and Abuja (the three cities of this research). In these cities, usage is also concentrated among a few college-educated (mostly) men in the 18-24 and 25-40 age groups. One arrives at this conclusion from observations of activities and profile of clientele in various cyber cafés in the cities of research and other state capitals in the country. In terms of penetration (the statistics are shown in Chapter 6), Nigeria is a long way from arriving at the global information society, though there were expectations that the pervasion of the ICT-for-development discourse and other local practices would provide the momentum for an accelerated growth in ICT penetration and usage in the country.

---

[5] Peter Wolcott developed the framework for Peter Wolcott, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis,* Mosaic Group Report (January 1997). But the above reference was taken from Goodman, et al, *The Global Diffusion of the Internet Project: An Initial Inductive Study*, a Mosaic Group Report (December 1998), p.4

For instance, mobile phone service providers on the GSM platform were reporting toward the end of 2002 that they had collectively subscribed about a million cellular phone lines in the 15 months since they began service delivery. Their operations had also deepened and extended to other parts of the country such that there was a higher level of geographic dispersion of this particular technology. Also with the launch of the first "Made in Nigeria" computer in October 2001 by Zinox Technologies and the company's aggressive marketing and publicity campaigns, people were becoming more aware of the "need" to own a computer. In 2002, a second national carrier was licensed and Nitel was again put on the market (for privatization). Both measures were expected to ultimately increase teledensity in the country. And finally, with the relative drop in the cost of access to the cell phone service, Internet access and the "trendiness" associated with the acquisition of ICTs, many more Nigerians are expected to get into the "information age" in a faster pace than in the past.

Secondary question 3: How does government perceive its role in the acquisition and use of ICTs, and consequently their application as strategies for socio-economic development? Who are investing in ICTs? What is the role of the private sector?

The first part of this question has already been addressed as a component of the first secondary question. To reiterate, government perceives its role as that of a regulator and facilitator of a conducive environment for private sector investments in ICTs. While government, through the policies on ICTs, is expected to pay for the costs of creating such an environment – such as setting up IT Parks and building Nigeria's equivalent of Silicon Valley – the private sector are expected to invest and reap the profits (especially with generous tax breaks and other financial incentives such as low or zero duties on the importation of raw materials for ICT manufacturing). The first major investment (the largest private investment in the country's history) was the cost of digital mobile licenses (DML) auctioned off to four operators to provide mobile phone service using the GSM technology. In one swoop, the government made US$855 million from the sale of the licenses. But it did not invest the money in the telecommunications sector. Rather, the federal government shared it out among the state governments some months after the GSM operators had rolled out their services.

Meanwhile, the operators invested further in setting up the service even with the inadequate infrastructure such as telecommunications and electricity. When the services started, they were anxious to recover their costs and despite the hype about cheap and affordable cellular phone services, the cost of access was beyond the reach of many Nigerians. There has been a significant reduction in access cost in the 16 months since the operators rolled out their services, but it is still unaffordable by the majority of Nigerians. While it is clear that the private sector will invest in ICTs and expand usage and awareness, the seemingly back-bench role of the state again raises questions about the possibilities that these technologies can be harnessed for socio-economic development given that the interests of business (represented by the private sector) are motivated by profits and not development, broadly defined.

Secondary question 4: Can ICTs help Nigeria to transcend the conditions that have traditionally acted as impediments to previous development efforts?

At the beginning of the research, I had identified certain conditions that are likely to constrain the achievement of the ICT-for-development goals. These include: state of the basic infrastructure, institutional framework within which ICTs are expected to operate, ideological or cultural framework, ethnicity, and poverty and illiteracy. This research shows that just as in previous development eras, these conditions remain important, but this time in two ways. First, there is an assumption that the development of ICTs will help to eliminate problems such as poverty and illiteracy, and rearrange the country's institutional and cultural frameworks. The technologies are also expected to solve the problem of ethnic diversity by transforming the current geopolitical arrangements such that the basis of wealth would no longer be geographically rooted (as in oil and minerals) but derived from "brain power" and the ability of Nigerians everywhere to take advantage of the potentials that ICTs offer. Second, while it is possible that ICTs can help to solve the "traditional" obstacles to development projects in the country, research shows that these conditions are likely to hinder the achievement of ICT-for-development projects. ICTs may overcome certain obstacles, but these obstacles are likely to hinder the success of the technologies to achieve the goals attached to their implementation. This problem rests on the fact that ICTs are secondary technologies and their success will depend on the very conditions and infrastructures that they are expected to transcend. For example, while it is possible to leapfrog "antiquated technologies" such as the landline telephone with satellite-enabled mobile telephony, the expansion of the modern technology still depends on the pre-existing telecommunications infrastructure. Cellular phone users in Nigeria complain about congested networks and problems of interconnectivity – ability to connect with someone subscribed to a different network. The problem occurred as a result of the narrow capacity of Nitel's public switched telephone network (PSTN). Essentially, the PSTN is like a road that facilitates transportation of vehicles and people. When the road is too narrow for the amount of traffic, it becomes congested and the result, in Nigerian parlance, is "go slow." It then takes much longer for people to reach their destinations.

Boye Olusanya, head of customer services at Econet, one of the two GSM networks, suggested that this problem would be solved when there are enough people on the cellular networks to connect directly to each other without having to go through the PSTN. To use the road metaphor, this is like suggesting that if enough people owned helicopters, they can easily fly over congested roads without having to structurally deal with the problem – such as expanding the road to allow more vehicles (the cheaper form of transportation) to go through easily. Thus, an "antiquated" technology is abandoned for a modern one and temporarily forgotten is the fact that structural solutions are more sustainable than surface ones.

At the moment, Nigerians are doing what they do best – according to Titi Omo-Etu, a telecommunications engineer who was interviewed during the research. They are "throwing money at the problem." Those who can afford it are subscribing to different cellular networks in the country and depending on the number called, would use a different phone to reach the different networks. This means that to make a phone call, a subscriber will decide what cellular network she is dialling into (as indicated by the prefix of the dialled phone number: 0802 for Econet, 0803 for MTN and 0804 for Nitel) and pick up the phone that has the subscription chip to that particular network. While she may still receive busy signals, the process of connection is easier than dialling an Econet number from MTN (and vice versa) and even much more difficult when dialling from a Nitel landline to a GSM-enabled cell phone.

One argues that while the expansion of the cellular networks and mass subscription will help many Nigerians leapfrog fixed telephone lines, the latter still need to be developed for a number of reasons. First, access to cellular phones in Nigeria will, for a long time, be limited by costs and geographical location. While cellular phone services have spread in Nigeria since this research was completed, it will take a long time before they reach the rural areas where more than half of the population live. Fixed lines – especially as manifested in public pay phones – are still a cheaper way of increasing teledensity and expanding access. The infrastructure such as railway lines and the national telephone grid already exists and should be deepened and extended to reach a wider geographic area. The cellular service providers are mandated to provide coverage to the rural areas but their choice of where to set up their base stations and cell sites will always be economically determined. With the government choosing to stay out of the ICT business (while at the same time continuing to provide financial incentives to the private sector), it is not likely that the state would force the PTOs to go into the less profitable rural areas. Secondly, while today's third (3G) and fourth (4G) generation cell phones, especially Bluetooth (the hyped wonder cell phone) have all kinds of capabilities and are expected to perform functions hitherto unheard of in a telephone, the landline facilitates higher sophistication of use at lower costs for the average "low-technology" user. For instance, a person in the rural area with access to the telephone can add on a fax machine and Internet connectivity. These add-on technologies are likely to meet his needs more than what the more expensive high-technology cellular phone can.

Another area where a goal of the ICT-for-development project will pose as an obstacle to its achievement is poverty and illiteracy. The ICT policy states that the technologies will be used for education and the alleviation of poverty. Apart from references to long-distance education, and there were already plans to set up a virtual university and library, there was no real connection in the policy between the technologies and poverty alleviation. It was simply assumed that the technologies through the generation of employment and activities in other economic sectors would alleviate poverty. While this may be so, it would take more than this to alleviate mass poverty, which already restricts the access of a majority of Nigerians to ICTs. As the research shows, even among the college-educated, IT-aware population, cost of access to training and the technologies greatly limited their frequency of use and the level of sophistication of use. While cost has come down in the months since the field research, it is likely that those who use ICTs, especially the Internet, will only engage in basic activities such as e-mail sending and receiving without really challenging the boundaries of the technologies in terms of finding innovative and economically profitable uses for them.

As a direct response to the fourth secondary research question, one argues that ICTs have the potential to transcend the conditions that hindered the achievement of earlier development objectives. At the same time, these conditions will, as a stubborn bacterium, pose as obstacles to the success of ICTs to eliminate them. This conundrum is however not to suggest that the ICT-for-development project should be abandoned. The point is that ICTs should not be conceived as the solutions to these problems, but developed in conjunction with other policy objectives in order to achieve a holistic and structural solution to the problems of underdevelopment in the country.

9:4 Future scenarios

With the promulgation of policies on ICTs only beginning in 2000 (the NPT) and 2001 (the NPIT), Nigeria is a fairly late entrant into both the ICT sector and the ICT-for-development discourse. It is therefore difficult to make any categorical statements about the capacities of ICTs to facilitate the achievement of socio-economic development goals in the country. However, given the available evidence, one can predict that if the current trend continues, there are likely to be changes on Nigeria's ICT landscape in the immediate future. These changes will occur in the areas of improved infrastructure and wider dispersion of the technologies, increased employment and perhaps increased productivity and revenue.

Improved infrastructure: Change will occur mostly in the area of telephony, particularly mobile services. Nigeria is currently one of the least connected countries in the world, and far below the average for sub-Saharan Africa. This situation is expected to change with the possibility of increased teledensity, particularly in the area of mobile telephony. As noted earlier, as at the end of 2002, the GSM operators in Nigeria were already announcing a subscriber base of one million. This was a phenomenal increase given that in more than a century of telecommunications in Nigeria, there were less than 500,000 telephone lines in the country as at August 2001. The activities in the mobile telephony sector have also spurred growth in the provision of fixed wireless services in places like Lagos where competition for the purchasing power of the population of 10 million is very stiff. Also in 2002, licence for a second national carrier was issued with the expectation that the subsequent competition between the two national carriers will lead to increased teledensity and lower costs of access to Nigerians.

Increased teledensity will not only result in wider usage but will have spill-over effects on other technologies such as the Internet. Also, the emerging popularity of wireless connections (through Very Small Aperture Terminals, VSATs) among Internet service providers (ISPs) in the country has already brought down the cost of access to the Internet. In many cyber cafés, the cost of access had dropped significantly in the 12 months since this research was concluded. While it is fairly very expensive for the average person in Nigeria, more Nigerians – especially young and male – are using the Internet in higher numbers than was observed during this research.

Furthermore, the manufacturing and cloning of computers in Nigeria will reduce the cost of acquiring computer products – hardware and software. The point must be noted that computers will be too expensive for the average Nigerian and may remain so for a long time to come, but more people – particularly urban dwellers – are going to be able to purchase them in the near future. Already, a complete cloned "system" (which includes a printer and power back-ups such as UPS) is cheaper than many "generic" and branded computers in North America. In fact, even with Dell offering a desktop for less than US$600 (according to its current television commercials), it might be cheaper to buy a computer with the same features and capacity as the advertised Dell in Nigeria than the one offered in the North American market.

Increased usage of the different technologies will invariably create wider awareness and attract more people to use them. The likely outcome is that users will move from the conventional state to find more innovative ways of using the technologies. As has often been said, Nigerians are resourceful and will find profitable ways of using the technologies, thus pushing the boundaries of possibilities. This will create a lot of software developers and websites selling Nigerian clothes, music and arts. It will also open up space for Internet and other technology-enabled crimes to thrive.

A higher employment rate is in Nigeria's future, not only in the ICT sector but also in the businesses that will spin off from the industry. Already, some people are profiting from providing "IT solutions" to companies and government agencies. Often these "solutions" people are operating from their briefcases and are engaged mainly in the supply of ICT components and peripherals. Others are engaged in "consultancy services" for which they are handsomely paid. As the demand for "solutions" expands, the "briefcase contractors" are likely to hire people. At the lower level, young men are setting up business centres and cyber cafés and offering services from basic document typing to full Internet access. In many places, depending on the size of the business, anywhere from one to ten employees are hired to attend to customers. Others, who have the training but not the funds to set up their own business, receive petty contract jobs such as web construction for companies. In Nigeria, many businesses and governments are competing with each other to build websites, even when the bosses and staff of these companies or government departments may not have access to the Internet. The job of building and maintaining the site is often out-sourced to a contractor or consultant. There is also a growing business in the manufacturing and maintenance of power generators and other power back ups to support ICTs given the epileptic public electricity supply in the country. Increased employment and economic activities in ICT-related businesses are therefore likely to lead to increased national economic productivity and revenue. However, the point must be made that the ICT industry is a not a labour-intensive one. While a lot of people will gain employment, the industry can absorb only so many. In fact, a lot of people will find themselves back in the unemployment market when their jobs are replaced by technologies.

It is possible that ICTs will enable Nigeria to achieve its national economic goals. But even if the technologies do not accomplish these lofty goals, their impact will be felt at the individual and societal levels. They will transform social relations in the country in the next few years. To draw from the scenario-modelling developed by Howkins and Valantin (1997), discussed in Chapter 2, Nigerians may find at the end of the journey that the information society is not as cooperative and friendly as they had thought. They may find that they will not be able achieve the NPIT's vision of global competitiveness, making Nigeria an IT-capable country in Africa and becoming a key player in the Information Society by 2005, "using IT as the engine for sustainable development and global competitiveness."[6] But the Nigerian ICT (particularly telecommunications) landscape would have been transformed – for good and for bad. It is impossible, given the potholes ahead of the road, that Nigerians will arrive at the information society by 2005, but in the next decade, a lot more of them, particularly the city-dwelling and college-educated elites, will be aware of the information society and the ICT-induced changes occurring at the global level.

---

[6] Federal Republic of Nigeria, "Vision Statement," *National Policy on Information Technology*, 2001, p.iii

9:5 Implications of research for development studies

One of the three-fold objectives of this research was an attempt to contribute a political science perspective to the debates on ICTs and development. The futile search for a clear theory already shows that there is a lot that is yet to be done in terms of research based on the tools of political science. For this study, I constructed an eclectic theoretical framework that draws mostly from the assumptions of critical theory to apply to an understanding of the connections between ICTs and socio-economic development. Through this research one has been able to situate ICTs centrally in the terrain of development studies, thus raising questions for the relevance of current theories of development in explaining the problems of underdevelopment in the age of a global information society.

The literature review (in Chapter 2) shows that despite the increasing interest in ICTs and the connections between the technologies and development, scholars in the field of development theory – defined as the body of theory concerned with the problems of underdevelopment – stand aloof from the madding crowd of current ICT-for-development discourse, research and practice. Contemporary research in development studies focuses mainly on issues such as globalization and its effects on south-north relations as well as the activities of multinational corporations without addressing their intersections with the ICT discourse. Indeed, the role of ICTs as enablers of the processes of globalization cannot be divorced from contemporary development studies and theory. This is because the world is "rapidly being molded into a shared social space by economic and technological forces and ... developments in one region of the world can have profound consequences for life chances of individuals or communities on the other side of the globe." (Held, 2000: 1) There is an unprecedented degree of interconnectedness and interdependence such that decisions made in one place can shape action in other places. For instance, the financial crises in many Asian countries in 1998 had global effects in ways that defined geographical and political boundary lines. Therefore, any useful analysis of the prospects of ICTs for socio-economic development cannot occur outside political science, but must be incorporated with all the other issues that relate to the allocation of resources – political and economic – in any society. For one, many countries in development have already responded to the ICT-for-development discourse and are making economic, political and socio-economic decisions based on the assumptions that ICTs can facilitate the attainment of national goals, as well as connect them to the global network society.

There are other issues that ICTs raise for countries generally but most especially for developing countries. These include governance, democracy and popular participation. In Nigeria, for example, despite its chequered attempts at democracy and colonial/military conception of information as "classified" and information flow as unidirectional (discussed in Chapter 8), "e-governance" (explained further below) is taking roots. While the practice of e-governance in the country is nascent and far from what obtains elsewhere (such as in the United Kingdom or in the state of Arizona), the possibilities are immense. Those with access to the Internet are beginning to believe that their voices do matter and the technologies can bring the government nearer to the people. Nigerians in the Diaspora have, in the last 12 years through Internet forums such as Naijanet, become a veritable pressure group by networking and mobilizing opinions and signatures at crucial national moments. Nigerian newspapers and news magazines quote comments and postings on Naijanet and many government officials give serious considerations to views expressed on Naijanet. Within the country, many NGOs and other grassroots movements, particularly those with access to external grants, are also organizing through the Internet, as well as using ICTs to facilitate their functions.

There is definitely a clear connection between the development of ICTs and governance, democracy and popular participation. And if development is conceived as a multi-faceted process, its linkages with these other issues – considered as the core concerns of political science – must be addressed. Thus ICTs, especially their linkages with socio-economic and political development should be central items on the agenda of political science generally and development studies specifically. For sure, scholars from other disciplines are researching the connections between ICTs and development but they do so from the perspectives of the traditional concerns of their own disciplines. For instance, Vincent

Mosco, a foremost Canadian researcher in information technologies at Carleton University, does his work mostly from the perspective of communication studies. Likewise Chrisanthi Avgerou, an information science scholar at the London School of Economics and Politics. Still, one argues that this research is important and contributes a specifically political science perspective to the ICT-for-development discourse. It does so through the particular theoretical framework used as well as analysis of the social and political issues raised by the debates. These issues have usually been ignored or relegated to the footnotes in many existing research on ICTs and development.

9:6 Areas for future research

It is impossible that a single research can deal with the gamut of issues that the ICT-for-development discourse generates. This research, while wide-ranging in terms of issues and sectors covered, did not attempt to answer all the questions. There is room therefore for future study. Besides, with Nigeria just beginning its journey toward the global information society, the country is a fertile field for research. The utilization of ICTs for development in Nigeria is a process that needs to be observed as a continual research project. Specific questions to address would include the outcomes of current wave of ICT projects and the direct connections between them and socio-economic development in the country. This can be done in the next five years.

Also, the two policies on ICTs gave the country the deadline of 2005 to achieve certain targets. It would be interesting to return to the country and see what targets were met and the factors that influenced prioritization in policy implementation. From the review of Nigeria's history of development planning, I have concluded that the ICTs-for-development project is not sustainable. This is an area that could be further investigated in about five years from now – by which time the Obasanjo Administration (currently seeking re-election in April 2003) would have finished its second and final term and it would be a year into the administration of a new leadership. The relevant question would be: did the ICT-for-development discourse survive the change of leadership?

This research touched on the multi-layers of digital divides that are emerging within the country. These are between students in expensive private, unity and model schools and those in under-funded and overpopulated public schools; urban and rural dwellers; young and old, and men and women. How will this growing disparity impact on the ability of the government to achieve its goals of harnessing ICTs for development? Does the emerging digital divide distort the effects of ICT-for-development strategies in the country?

Nigeria is considering e-governance (delivery of government services via electronic media such as the Internet) but certain habits and attitudes are yet to be eliminated. It is no secret that many public servants in Nigeria supplement their income by taking bribes from people who seek their services. It is common for personal or contract files to go missing but miraculously appear when the custodian of the documents is given a "tip." Also, public information is deliberately kept "secret," "confidential" and "classified" to create a market for sale to those who desperately require this information. And now with the narrative that information has become an "essential commodity," will civil servants not be even more resistant of giving it away for "free," even when it was not theirs to keep in the first place? In Nigeria, there is an attitude of "bigmanism" – defined as the self-perception especially by public officials, that they are "big" men and women above the level of the ordinary Nigerian. In the nature of bigmanism, public officials are usually not "on seat" and many will not show up for appointments. It is common for people to wait for hours just to see a "big man" or "big woman" even with appointments. A component of e-governance is efficient delivery of service, especially through the use of e-mail by public officials to communicate with members of the public particularly those seeking information about government services.

E-governance is currently understood in Nigeria as the setting up of websites for government departments, and no other services are offered. In cases where contact e-mail addresses are provided, electronic inquiries are rarely responded to. And when one phones (in the few places where phones exist and are actually functional), many civil servants are rude and unhelpful. Given this scenario what are the prospects that ICTs can succeed in Nigeria as tools for governance? And if "bigmanism" and corruption are eliminated, will the majority of Nigerians without access to the technologies become further disenfranchised from the process of decision-making in the country? These questions are also relevant for the adoption of e-democracy in a country still struggling to grapple with the intricacies of "real" democracy.

Finally, this research raises the need to do a comparative analysis of the experience of Nigeria in the process of harnessing ICTs as tools for socio-economic development with that of other countries such as Ghana and South Africa. Specifically, the question could be asked: How is the pattern of ICT development and diffusion in Nigeria similar to or different from what obtains in other countries, particularly those at the same level of political and socio-economic development? In future research, one could also disaggregate the technologies and examine their developments individually, though always taking cognizance of their integrated nature and interdependence. For instance, rather than make a comparative analysis of the development of ICTs, one could simply focus on the Internet or computer.

9:7 Summary of main arguments

In this chapter, I have summarized the dissertation research and findings, starting with a review of the chapters (in the second section). I have also explored the issues the research raised and the implications of the findings, both for the Nigerian development project and development studies. In this final section, I re-state some of the main arguments that framed and have been reinforced by this research.

- First, it is difficult to make an argument about the utility of ICTs in the development project of poor countries in the absence of empirical evidence that shows a connection between ICTs and socio-economic development. Such connections do not yet exist in Nigeria given that it has just started its ICT-for-development project.

- Second, the ICT-for-development debates are more complex than was assumed at the beginning of this research. ICTs *can* indeed be used as tools for socio-economic development. However, their success in this endeavour will depend on how they are applied such that their positive effects can spread to the larger population rather than concentrate in a few hands and further perpetuate the existing wide income disparities in the country. It must also be noted that the technologies have negative effects – in the Nigerian case, making the people more dependent on importation – and reducing these will also determine the success of the technologies as tools for socio-economic development.
- Third, and related to the above, there are certain conditions in Nigeria that have always posed as obstacles to development efforts, and are themselves a consequence of the state of underdevelopment in the country. It is expected that these conditions will be eliminated by ICTs even as research shows that they will also impede the achievement of ICT-centred development objectives. To address this conundrum, one argues that ICT policies should be integrated with other national policies in order to find a holistic and structural solution to the problems of underdevelopment in the country.
- Fourth, the Nigerian state needs to play a more central role in the harnessing of ICTs for socio-economic development so that the potential benefits of ICTs can accrue to the greater number of people rather than a few individuals with

connections to the corridors of power. To achieve this, the state must deliberately create opportunities and avenues for wider diffusion of ICTs. The evidence suggests that the involvement of the state sparked growth in Nigeria's ICT sector thus reinforcing its historical role as a developmental state. In making this point, one acknowledges that the state in Nigeria can often be a problem to development. There is therefore a need to reduce the problematic effects of state involvement in the economy while expanding on its capacity to allocate economic resources in ways that are likely to reduce the existing income disparities in the country.

- Fifth, proactive steps have been taken to address the low penetration level of ICTs in Nigeria. If the momentum continues, and survives change in political leaderships, the country is likely to reach (and probably surpass) South Africa as the most ICT-penetrated country in sub-Saharan Africa. In the area of mobile telephony, the rate of growth in Nigeria in 2001 and 2002 was phenomenal. The diffusion of ICTs in the country is likely to spread to other sectors of the economy and spin off other economic activities.

References

Annan, Kofi, “In Africa, AIDS Has a Woman's Face,” The *New York Times*, Dec. 29, 2002. http://www.nytimes.com/2002/12/29/opinion/29ANNA.html

Aragba-Akpore, Sonny, “NITEL, MTS may be favored for mobile phone permits” in The *Guardian* Online, http://www.ngrguardiannews.com Accessed Feb. 22, 2000.

Avgerou, Chrisanthi "How Can IT Enable Economic Growth in Developing Countries?" *Information Technology for Development*, 15-28, 1998

Federal Republic of Nigeria, “Vision Statement,” *National Policy on Information Technology*, 2001

Held, David, ed., *A Globalizing World? Culture, Economics,* (New York, New York: Routledge, 2000)

Howkins, John and Robert Valantin (eds.), *Development and the Information Age: Four Global Scenarios for the Future of Information and Communication Technology.* (Ottawa, Canada: IDRC/UNCSTD, 1997)

Lerner, Daniel, *The Passing of Traditional Society: Modernizing the Middle East.* (Glencoe, IL: Free Press, 1958)

Mazrui, Ali Al’Amin, *The Africans: A Triple Heritage.* (Boston, MA : Little, Brown, 1986)

Mosco, Vincent, *The Pay-per society: Computers and Communication in the Information Age: Essays in Critical Theory and Public Policy.* (Toronto, Ontario: Garamond Press, 1989)

— *The Political Economy of Communication: Rethinking and Renewal.* (London, Thousand Oaks: Sage, 1996)

Wolcott, Peter, Seymour E. Goodman and Grey E. Burkhart, *The Information Capability of Nations: A Framework for Analysis* (A Mosaic Group Report January 1997)

Yesufu, Tijani M., *The Nigerian Economy: Growth Without Development.* (University of Benin, Benin City, Nigeria: The Benin Social Science Series for Africa, 1996)

Appendix A: The Questionnaire

This questionnaire is part of a PhD dissertation research on the use of information and communication technologies (ICTs) in Nigeria. It is conducted by a doctoral candidate in the Department of Political Science, University of Alberta, Canada. It will take approximately 20 minutes to complete the questionnaire. Your participation is voluntary and your answers will be confidential. Thank you for your cooperation.

What in your opinion, would you consider to be the THREE most important socio-economic concerns in Nigeria today?

1. Unemployment
2. Inflation
3. Low literacy level
4. Corruption
5. Poor health services
6. Inadequate infrastructure –such as electricity, communication facilities and pipe-borne water
7. Bad roads
8. Hunger
9. Crime
10. Bad leadership

SECTION A: NEW INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS)

1. In your opinion, which of the following technologies constitute new information and communication technologies, hereafter referred to as ICTs? (*You may choose more than one.)*

    1. Radio and television
    2. Telephone and fax machine
    3. Cellular telephones
    4. Computer, printer and photocopying machine
    5. Internet – E-mail, World Wide Web (WWW)
    6. Satellite and cable communication systems
    7. Other (*please specify)* ----------------------------

2. Which of these technologies have you used in the past 12 months? *Please circle 1. for Yes and 2. for No.*

Radio and television	1. Yes	2. No
Telephone and fax machine	1. Yes	2. No
Cellular telephone	1. Yes	2. No
Computer, printer, photocopying machine	1. Yes	2. No
Internet – E-mail, WWW	1. Yes	2. No
Satellite and cable communication systems	1. Yes	2. No

Other (*please specify)* -------------------------------------

2 a. If you answered Yes to any of the above questions, when did you start using the technology (or technologies)? *Please write the number that corresponds with your answer against each of the technologies listed below.*

1. Less than six months
2. Six months but less than one year
3. 1-2 years
4. Over 2 years

Radio and television
Telephone and fax machines
Cellular telephones
Computers, printers and photocopying machines
Internet – E-mail, World Wide Web (WWW)
Satellite and cable communication systems
Other (*please specify)* -----------------------------

Please proceed to Question 3.

2b. If you answered No to any of the questions in 2, have you at any time used any of these technologies? *Please write 1 for Yes and 2 for No against the technologies.*

Radio and television
Telephone and fax machines
Cellular telephones
Computers, printers and photocopying machines
Internet – E-mail, World Wide Web (WWW)
Satellite and cable communication systems
Other (*please specify)* ----------------------------------

2c. Which of the following technologies do you plan to use in the next 12 months?

Radio and television
Telephone and fax machines
Cellular telephones
Computers, printers and photocopying machines
Internet – E-mail, World Wide Web (WWW)
Satellite and cable communication systems
Other (*please specify)* ----------------------------------

2d. Which of the following technologies do you plan to use in the next one month?

Radio and television
Telephone and fax machines
Cellular telephones
Computers, printers and photocopying machines
Internet – E-mail, World Wide Web (WWW)
Satellite and cable communication systems
Other (*please specify)* ----------------------------------

3. Have you used a telephone in the past one month?
    1. Yes
    2. No →

How likely are you to use a telephone in the next one month?
1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

(Please proceed to Q.4)

3a. The last time you used a telephone, where was it?
1. Home
2. Work (office)
3. School
4. Public pay phone
5. Business center

3b. What was the purpose the last time you made a phone call?
1. Business (official)
2. Personal

3c. Where was the destination the last time you made a phone call?
1. Local (within the same town or city)
2. Long distance (another town or city within the same state)
3. National (outside the state)
4. International (outside Nigeria)

3d. Approximately, how many times do you make a phone call in a month?
1. Once
2. Twice
3. Three times
4. Four times
5. Over four times

3e. If you have made more than one phone call in the past one month, how many were official/business related?
1. One
2. Two
3. Three
4. Four and more
5. None

3f. If you have made more than one phone call in the past one month, how many were personal?
1. One
2. Two
3. Three
4. Four and more
5. None

4. Have you used a cellular phone in the past one month?
    1. Yes
    2. No →

How likely are you to use a cellular phone in the next one month?
    1. Very likely
    2. Likely
    3. Somewhat likely
    4. Not very likely
    5. Not at all likely

(Please proceed to Q.5)

4a. The last time you used a cellular phone, whose phone was it?
    1. Personal phone
    2. Official phone
    3. Somebody else's
    4. Other *(please specify)* --

4b. The last time you used a cellular phone, what was the purpose of the call?
    1. Personal
    2. Business (official)

4c. The last time you used a cellular phone, where did you call?
    1. Local (within the same town or city)
    2. Long distance (another town or city within the same state)
    3. National (outside the state)
    4. International (outside Nigeria)

4d. Approximately, how many times in a month do you use a cellular phone to make a call?
    1. Once
    2. Twice
    3. Three times
    4. Four times and over

4e. Of this number, how many are official or business-related?
    1. One
    2. Two
    3. Three
    4. Four and more
    5. None

4f. If you have made more than one call on a cellular phone in the past one month, how many were personal?
    1. One
    2. Two
    3. Three
    4. Four and more
    5. None

5. Would you consider yourself to be computer-literate?
   1. Yes
   2. No

5a. Have you ever learnt how to use a computer?
   1. Yes
   2. No

5b. If you have learnt how to use a computer, where was it?
   1. University or polytechnic
   2. Commercial computer learning center
   3. Office – learnt on the job
   4. At home – self taught, or taught by a family member or friend

5c. What was the primary reason in your decision to learn how to use a computer?
   1. Required course in school
   2. Parent or guardian asked me to do it
   3. Required at current or prospective work
   4. Interest

5d. Have you used a computer in the past one month?
   1. Yes
   2. No →

How likely are you to use a computer in the next one month?
   1. Very likely
   2 Likely
   3. Somewhat likely
   4. Not very likely
   5. Not at all likely

(Please proceed to Q.6)

5e. The last time you used a computer, where was it?
   1. Home
   2. Office
   3. School
   4. Other (*please specify*) --------------------------------

5f. Was the last computer you used a desktop or a laptop (notebook)?
   1. Desktop
   2. Laptop (notebook)

5g. The last time you used a computer, did you operate it yourself or did some other person do it for you?
   1. Operated it myself
   2. Some other person operated it for me

5h. The last time you used a computer either by yourself or through some other person, what did you do? (*You may select more than one response.*)
   1. Typed a personal letter
   2. Typed an official letter

3. Typed an e-mail
4. Typed a resume (or CV)
5. Typed a document related to your work or business
6. Prepared a school project (term paper or thesis)
7. Used it to carry out your routine office work
8. Played a computer game
9. Accessed the Internet
10. Other (*please specify)* ------------------------------------

5i. How many computers do you have access to?

1. One
2. Two
3. Three and over
4. None

5j. Do you own a computer?

1. Yes → Is your computer a desktop or a Laptop? 1. Desktop 2. Laptop 3. Both

2. N o → i) Do you know someone who owns a computer? 1. Yes 2. No

ii) How likely are you to own a computer in the next 12 months?

1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not all likely

5k. Approximately, how many times in a month do you use a computer?

1. Once
2. Twice
3. Three times
4. Four times and over
5. Daily
6. Not at all

5l. If you have used a computer more than once in the past one month, how many times did you use it for work?

1. One
2. Two
3. Three
4. Four and more
5. All the time
6. Not at all

6. Have you ever used the Internet?
   1. Yes
   2. No →

How likely are you to use the Internet in the next one month?
1. Very likely
2 Likely
3 Somewhat likely
4 Not very likely
5 Not at all likely

6a. Have you ever sent an E-mail?
1. Yes
2. No →

How likely are you to send an E-mail in the next one month?
1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

6b. Have you ever received an E-mail?
1. Yes
2. No →

How likely are you to receive an E-mail in the next one month?
1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

6c. Have you ever browsed the World Wide Web?
1. Yes
2. No →

How likely are you to browse the World Wide Web in the next one month?
1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

7. Have you used the Internet in the past 12 months?
1. Yes
2. No

7a. Have you used the Internet in the past one month?

1. Yes
2. No →

How likely are you to use the Internet in the next one month?

1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

(Please proceed to Q.8)

7b. How many times have you used the Internet in the past one month?

1. Once
2. Twice
3. Three times
4. Four times and over
5. None

7c. Thinking about the last time you used the Internet in the past one month, what was the purpose?

1. Personal
2. Work (official or business-related)
3. Both

7d. What activity did you engage in the last time you used the Internet?

1. E-mail (receiving and sending)
2. Internet search
3. Browsing
4. Other *(please specify)* --

7e. Again, thinking about the last time you used the Internet, where did you log in from?

1. Home
2. Work (office)
3. School
4. Business Centre or Cybercafè
5. Other *(please specify)* --

7f. The last time you accessed the Internet, did you operate it yourself or did some other person operate it for you?

1. Operated it myself
2. Some other person operated it for me

7g. Approximately, how many times in a month do you access the Internet?

1. Once
2. Twice
3. Three times
4. Four times and over
5. Daily
6. None

7h. Do you have direct Internet access at your place of work, business or school?

1. Yes
2. No

7i. Do you have your personal Internet access?

1. Yes →

Approximately, how much do you spend on your personal Internet access in a month?

----

2. No →

Approximately, how much do you spend each time you access the Internet?

----

8. Do you have your personal E-mail address?

1. Yes
2. No

8a. Have you sent an E-mail in the past 12 months?

1. Yes
2. No

8b. Have you sent an E-mail in the past one month?

1. Yes
2. No →

How likely are you to send an E-mail in the next one month?

1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

(Please proceed to Q.9)

8c. How many times have you sent an E-mail in the past one month?

1. Once
2. Twice
3. Three times
4. Four times and over
5. Everyday

8d. Thinking about the last time you sent an E-mail in the past one month, what was the purpose?

1. Personal
2. Work (official or business-related)

8e. Where was the destination of the last E-mail you sent?

1. Local (within the same town or city)
2. Long distance (within the same state)
3. National (another state)
4. International (outside Nigeria)

8f. Again, thinking about the last time you sent an E-mail, did you send it yourself or did some other person do it for you?

1. Sent it myself
2. Some other person sent it for me

8g. Approximately, how many times in a month do you send an E-mail?

1. Once
2. Twice
3. Three times
4. Four times and over
5. Daily
6. None

8h. If you have sent more than one E-mail in the past one month, how many were personal?

1. One
2. Two
3. Three
4. Four and more
5. Not applicable

8i. If you have sent more than one E-mail in the past one month, how many were official or work/business related?

1. One
2. Two
3. Three
4. Four and more
5. Not applicable

9. Have you received an E-mail in the past 12 months?

1. Yes
2. No

9a. Have you received an E-mail in the past one month?

1. Yes
2. No →

How likely are you to receive an E-mail in the next one month?

1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

(Please proceed to Q.10)

9b. How many times have you received an E-mail in the past one month?

1. Once
2. Twice
3. Three times
4. Four times and over
5. Everyday
6. None

9c. Thinking about the last E-mail you received in the past one month, what was the purpose?

1. Personal
2. Work (official or business-related)
3. Both

9d. What was the origin of the last E-mail you received?

1. Local (within the same town or city)
2. Long distance (within the same state)
3. National (another state)
4. International (outside Nigeria)

9e. Again, thinking about the last E-mail you received, did you retrieve it yourself or did some other person do it for you?

1. Retrieved it myself
2. Some other person did it for me

9f. Approximately, how many times in a month do you receive an E-mail?

1. Once
2. Twice
3. Three times
4. Four times and over
5. Daily
6. None

9g. If you have received more than one E-mail in the past one month, how many were personal?

1. One
2. Two
3. Three
4. Four and more
5. None

9h. If you have received more than one E-mail in the past one month, how many were official or work/business related?

1. One
2. Two
3. Three
4. Four and more
5. None

10. Have you done an Internet search in the past 12 months?
   1. Yes
   2. No

10a. Have you done an Internet search in the past one month?
   1. Yes
   2. No →

How likely are you to do an Internet search in the next one month? 1. Very likely 2. Likely 3. Somewhat likely 4. Not very likely 5. Not at all likely *(Please proceed to the next section)*

10b. How many times have you done an Internet search in the past one month?
1. Once
2. Twice
3. Three times
4. Four times and over
5. Everyday

10c. Thinking about the last time you did an Internet search in the past one month, what was the purpose?
1. Personal
2. Work (official or business-related)
3. Both

10d. What information were you searching for? (*Please give some of the keywords)*

10e. Did you find what you were searching for?
   1. Yes
   2. No →

Did you try to find the information from other sources? 1. Yes 2. No

10f. Based on your experience the last time you searched the Internet, how likely is the Internet to become your major source of information?

1. Very likely
2. Likely
3. Somewhat likely
4. Not very likely
5. Not at all likely

SECTION B: NEW ICTS AND SOCIO-ECONOMIC DEVELOPMENT

1. For each of the following statements, please indicate by circling the appropriate letters if you Strongly Agree (SA), Agree (A), Neither Agree nor Disagree (NA), Disagree (D) or Strongly Disagree (SD).

a. New ICTs will stimulate socio-economic growth in Nigeria. SA A NA D SD

b. New ICTs will create employment in Nigeria. SA A NA D SD

c. New ICTs will facilitate health delivery in Nigeria. SA A NA D SD

d. New ICTs will raise literacy rates in Nigeria through long-distance learning. SA A NA D SD

e. New ICTs will check corruption in Nigeria. SA A NA D SD

f. New ICTs will help to reduce inflation in Nigeria. SA A NA D SD

g. New ICTs will help to reduce crime rate in Nigeria. SA A NA D SD

h. New ICTs will help to eliminate hunger in Nigeria. SA A NA D SD

i. New ICTs will help to solve the problem of bad leadership in Nigeria. SA A NA D SD

j. New ICTs will politically empower Nigerians. SA A NA D SD

k. New ICTs will improve my standard of living. SA A NA D SD

2. How do you think new ICTs will personally affect your life in the next five years? (*Please be as specific as possible in your response.)*

____

____

____

3. What do you think should be the role of government in the development and use of new ICTs in Nigeria?

4. And what do you think should be the role of the private sector?

5. In your opinion, what factors or conditions will promote the rapid diffusion and use of new ICTs in Nigeria?

6. Please complete the following statements:

a. Computers, telecommunications and the Internet are most useful for –

b. If I were designing a way to use ICTs to help reduce poverty, I'd –

----

c. The best way to make certain that women and girls in the Nigerian society learn how to take advantage of ICTs is to –

SECTION C: DEMOGRAPHIC DATA

1. Are you male or female?
    1. Female
    2. Male

2. In which of the following age groups are you?
    1. Under 18
    2. 18-24
    3. 25-30
    4. Over 30

3. Did you obtain your post-secondary education in Nigeria or abroad?
    1. Nigeria

3a. If abroad, what country?

----

    2. Abroad
    3. Both

4. What type of post-secondary institution did you attend?
    1. University
    2. Polytechnic

3. College of education
4. Other (*please specify*) ------------------------------

5. How many years of post-secondary education do you have?
   1. 1-2 years
   2. 3 years
   3. 4-6 years
   4. More than 6 years

6. What was your major field of study? ---

7. Is your NYSC primary assignment in your field of study?
   1. Yes
   2. No

8. What is your state of origin? -----------------------------------

Appendix B: Cities of research

It would have been practically impossible to interview all Nigerians about their ICT use and awareness. I instead set out to interview a sample of fresh college graduates under the age of 30 in each of the three "high tech" cities of Lagos, Port Harcourt and Abuja. The level of ICT use in these cities is demonstrably high. At the basic level, this can be determined by the cost of Internet access. In Lagos, where cyber cafés dot the major streets, accessing the Internet in 2001 cost five Naira per minute, or less. In Abuja, the country's capital, it cost between ten Naira and 15 Naira. In Port Harcourt, the range was between 15 and 20 Naira. (And not incidentally, the lower the cost of access, the higher the level of use by the respondents in the research.) Thus the Lagos respondents were more aware of ICT issues, and used the technologies comparatively more often than those in Abuja and Port Harcourt.

Choice of cities: The first contact between the earliest European explorers, merchants and missionaries and the people of present-day Nigeria occurred in the southeastern city of Calabar (where the first-ever phone call in the country was completed in 1866). However, for reasons, beyond the scope of this work, regular and sustained contacts with the Europeans happened in the coastal-city of Lagos, on the southwestern tip of the country. Lagos gradually became the centre of commerce and government, and with the emergence of the Nigerian colonial state in 1914; it also became the centre of colonial administration. After political independence was regained in 1960, Lagos continued to be the political capital until 1992 when it lost the position to the newly created Federal Capital City of Abuja. Infrastructurally, Lagos is therefore the most developed city in the country, and while it is no longer the political capital, it remains the economic hub of the country. For instance, Nigeria's major industries such as banking and insurance are based in Lagos. Also, the headquarters of many of the major companies – from oil to manufacturing – are in Lagos. While many have established presence in Abuja, Lagos remains the home of the embassies and high commissions. Lagos is also the hub of the airline industry, and it is the only city in Nigeria from where one can fly directly to all the airports in the country, and to more countries than any of the other international airports of Kano, Abuja and Port Harcourt.

It is not by accident therefore that Lagos is a major high-tech city – owning the only "computer village" in the country. The earliest use of the Internet in Nigeria was mostly in the embassies/high commissions and in the multinational oil companies. In fact, the first known E-mail activity (sending and receiving) in Nigeria (circa 1994) occurred in Lagos. Lagos also records a high use of Very Small Aperture Terminals among the banks in the city, and it is now becoming popular with Internet Service Providers, the majority of which are located in Lagos.[1] This reduces the cost of Internet access in Lagos, as well as facilitating Internet telephony (or Voice Over Internet Protocol).

Port Harcourt is the capital city of Rivers State – the unofficial headquarters of Nigeria's oil industry. A significant percentage of the oil drilling activities in Nigeria occurs in

---

[1] In satellite communication, signals are sent from Earth to a satellite launched in space. When the signals hit the satellite, they are reflected back to earth and can be received through the appropriate media. According to one of my sources, Titi Omo-Ettu, an electrical/electronics engineer, satellite transmitters usually have large apertures but in recent years, it was found that very small aperture terminals could do the same job on a smaller scale but at relatively cheaper costs. In Nigeria, companies such as banks and some very wealthy individuals can now afford them. The Nigerian Communications Commission allocates the frequencies and VSAT licenses to end-users.

Rivers State, home of the famous Ogonis. One of the two oil refineries in Nigeria is also located in Port Harcourt. As a result, there is a lot of multinational presence in the city. For instance, some of the earliest people to have Internet access in Nigeria were employees of Schlumberger, a Port-Harcourt-based multinational oil corporation. Other oil companies such as Shell Petroleum were also among the earliest to connect to the Internet. There is therefore a high level of Internet activity in Port Harcourt, with the presence of several cyber cafés now popularizing this means of communication. Port Harcourt is also one of the few cities (about four) outside Lagos where there is an Internet service provider, providing connections to the Internet through VSAT. Abuja was included in the survey, not just because it is the federal capital city, but also because there is a higher level of Internet activity there than in many other cities – perhaps because it *is* the national capital.

Incidentally, when the GSM operators in Nigeria launched their services in August 2001, it was in the three cities of Lagos, Port Harcourt and Abuja where they first began operation. This reinforced the choice of the cities of research for this dissertation. It might be argued that due to the nature of these three cities, namely their higher level of infrastructure development and ICT access, results of research are not representative of ICT experiences of Nigerians living in other parts of the country. The argument can also be made for any chosen city given the poor geographical dispersion of ICTs in the country. Even the basic telephone is absent in many Nigerian cities – and this is not unimaginable given that before August 2001, there were less than 500,000 functional telephone lines in the country of 116 million people. It would therefore be pointless to administer a questionnaire about ICTs to people living in places where the technologies were unavailable. In going to Abuja, Lagos and Port Harcourt, one made a prior assumption that research participants – who were neither policymakers nor "IT solutions providers" – shared similar socio-economic conditions and access to the technologies. As constantly stressed in the dissertation, one does not presume that the experiences of 306 college-educated Nigerians living in Abuja, Port Harcourt and Lagos can be generalized for the general population. However, the results of the research can illuminate some of the issues critical to the successful application of ICTs for socio-economic development in the country. These include access, availability, affordability, awareness and the general institutional and infrastructural frameworks in which the technologies are used.

Appendix C: Personal Interviews

1. Ajayi, Gabriel, professor of telecommunications engineering and director-general of the Nigerian Information Technology Development Agency (NITDA), Abuja

2. Amana, Etim, managing director of Management Information Systems (Nig) Ltd., Lagos

3. Damkor, Moses, assistant director, Technical Services Division, Ministry of Communications, Abuja

4. Eigbefoh, Eunice, scientific officer (II), Technology Acquisition Department, Ministry of Science and Technology, Abuja

5. Ekundayo, Tayo, public relations manager, Nigerian Telecommunications, Plc. Abuja

6. Ekuwem, Emmanuel, managing director of Lagos-based Teledom (Nig.) International and Breezedom – an "IT wireless access solutions provider," and vice chairman of the Nigerian Internet Group (NIG).

7. Gunda, Esther, deputy director, Technical Services Division, Ministry of Communications, Abuja.

8. Ndukwe, Ernest, executive vice chairman and chief executive of the Nigerian Communications Commission (NCC), Abuja.

9. Odusote, Ibukun, head of the IT Unit in the Federal Ministry of Information and National Orientation, Abuja. She is usually referred to as "the mother of the Internet in Nigeria."

10. Olaoye, Tunde, assistant director, policy unit, policy, Federal Ministry of Education, Abuja

12. Olusanya, Boye, head of the customer services division of Econet, one of the GSM operators in Nigeria, Lagos

13. Omo-Ettu, Titi, managing director of Executive Cyberschuul, a Lagos-based institute that offers IT training to business and government executives.

14. Omueze, Freeborn, assistant chief administrative officer, IT Desk, Department of Planning, Research and Statistics, Ministry of Communications, Abuja

15. Oyawoye, Tajudeen, special assistant on Information Technology to President Olusegun Obasanjo, The Presidency, Abuja.

16. Oyeleye, Olatokunbo, manager, Information Technology Unit, Nigerian Communications Commission, Abuja

17. Nwaogu, Sam, deputy director, Department of Planning, Research and Statistics, Federal Ministry of Education, Abuja

18. Stan-Ekeh, Leo, chairman and chief executive of Zinox Technologies, Lagos, makers of the first "Nigerian computer."

19. Uwaje, Chris, president of the Information Technology Association of Nigeria (ITAN)